

**Internal Use Only**



# **Service Manual**

# **LG-E615**

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# 1. INTRODUCTION

## 1.1 Purpose

This manual provides the information necessary to repair, calibration, description and download the features of this model.

## 1.2 Regulatory Information

### A. Security

Toll fraud, the unauthorized use of telecommunications system by an unauthorized part (for example, persons other than your company's employees, agents, subcontractors, or person working on your company's behalf) can result in substantial additional charges for your telecommunications services. System users are responsible for the security of own system. There are may be risks of toll fraud associated with your telecommunications system. System users are responsible for programming and configuring the equipment to prevent unauthorized use. The manufacturer does not warrant that this product is immune from the above case but will prevent unauthorized use of common carrier telecommunication service of facilities accessed through or connected to it. The manufacturer will not be responsible for any charges that result from such unauthorized use.

### B. Incidence of Harm

If a telephone company determines that the equipment provided to customer is faulty and possibly causing harm or interruption in service to the telephone network, it should disconnect telephone service until repair can be done. A telephone company may temporarily disconnect service as long as repair is not done.

### C. Changes in Service

A local telephone company may make changes in its communications facilities or procedure. If these changes could reasonably be expected to affect the use of the phones or compatibility with the net work, the telephone company is required to give advanced written notice to the user, allowing the user to take appropriate steps to maintain telephone service.

### D. Maintenance Limitations

Maintenance limitations on the phones must be performed only by the manufacturer or its authorized agent. The user may not make any changes and/or repairs expect as specifically noted in this manual. Therefore, note that unauthorized alterations or repair may affect the regulatory status of the system and may void any remaining warranty.

### E. Notice of Radiated Emissions

This model complies with rules regarding radiation and radio frequency emission as defined by local regulatory agencies. In accordance with these agencies, you may be required to provide information such as the following to the end user.

### F. Pictures

The pictures in this manual are for illustrative purposes only; your actual hardware may look slightly different.

### G. Interference and Attenuation

A phone may interfere with sensitive laboratory equipment, medical equipment, etc. Interference from un suppressed engines or electric motors may cause problems.

### H. Electrostatic Sensitive Devices

#### ATTENTION

Boards, which contain Electrostatic Sensitive Device (ESD), are indicated by the  sign.

**Following information is ESD handling:**

- Service personnel should ground themselves by using a wrist strap when exchange system boards. • When repairs are made to a system board, they should spread the floor with anti-static mat which is also grounded.
- Use a suitable, grounded soldering iron. • Keep sensitive parts in these protective packages until these are used.
- When returning system boards or parts like EEPROM to the factory, use the protective package as described.

## 2. PERFORMANCE

### 2.1 Product Name

E615 : WCDMA900/2100+EGSM/GSM850/DCS/PCS

(HSDPA 7.2Mbps GPRS Class 12)

### 2.2 Supporting Standard

Item	Feature	Comment
Supporting Standard	WCDMA(FDD1,8)/EGSM/GSM850/DCS1800/PCS1900 with seamless handover Phase 2+(include AMR) SIM Toolkit: Class 1, 2, 3, C-E	
Frequency Range	WCDMA(FDD1) TX : 1920 – 1980 MHz WCDMA(FDD1) RX : 2110 – 2170 MHz WCDMA(FDD8) TX : 880~915 MHz WCDMA(FDD8) RX : 925~960 MHz  EGSM TX: 880 – 915 MHz EGSM RX: 925 – 960 MHz  GSM850 TX: 824 – 849 MHz GSM850 RX: 869 – 894 MHz  DCS1800 TX : 1710 – 1785 MHz DCS1800 RX: 1805 – 1880 MHz PCS1900 TX: 1850 – 1910 MHz PCS1900 RX: 1930 – 1990 MHz	
Application Standard	WAP 2.0	

### 2.3 Main Parts : GSM Solution

Item	Part Name	Comment
Digital Baseband	MSM7225A: Qualcomm	
Analog Baseband	PM8029 : Qualcomm	
RF Chip	RTR6285A : Qualcomm	

## 2. PERFORMANCE

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### 2.4 HW Features

Item	Feature	Comment
Form Factor	DOP type	
Battery	1) Capacity Standard : Li-Ion , 1500mAh	
	2) Packing Type : Soft Pack	
	Standard : 118.3 x 66.5 x 9.88mm	
Weight	120g	With Battery
Volume	74.89cc	
PCB	L1B2 10 Layers , 0.8t	
Stand by time	2G Up to 600 hrs	@ Paging Period 5 (2G)
	3G Up to 600 hrs	@ DRX 7 (3G)
Charging time	3 hrs	@ Power Off / 1500mAh
Talk time	2G Up to 750mins	@ Power Level 13 (2G)
	3G Up to 600mins	@ Tx = 0dBm (3G)
RX sensitivity		WCDMA(FDD1) : -106.7 dBm WCDMA(FDD8) : -104.7 dBm EGSM : -105 dBm GSM850 : -105 dBm DCS 1800 : -105 dBm PCS 1900 : -105 dBm
TX output power	WCDMA/ GSM/ GPRS	WCDMA : 24dBm/3.84MHz,+1/-3dBm EGSM : 33dBm GSM850 : 33 dBm DCS 1800 : 30 dBm PCS 1900 : 30 dBm
	EDGE	GSM 900 : 27 dBm DCS 1800 : 26 dBm PCS 1900 : 26 dBm
GPRS compatibility	GPRS Class 12	
SIM card type	Plug-In SIM 3V /1.8V	
	Dual SIM Socket	

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Display	Main LCD HVGA Main LCD(4.0", 320 x 480)	
Built-in Camera	5M AF CMOS Camera	
Status Indicator	No	
Keypad	Function key : 1 Side Key : 2 Power key : 1	Function Key: Home, Back, Menu, Side Key : Volume up/down
ANT	Main : Internal Fixed Type	LDS type
System connector	5 Pin	
Ear Phone Jack	3.5Phi, 4 Pole, Stereo	
PC synchronization	Yes	
Memory	eMMC : 4GByte DRAM : 4Gbit	
Speech coding	FR, EFR, HR, AMR	
Data & Fax	Built in Data & Fax support	
Vibrator	Built in Vibrator	
Blue Tooth	V3.0	
MIDI(for Buzzer Function)	SW Decoded 72Poly	
Music Player	MP3/ WMA/AAC/HE-AAC/EAAC+	
Video Player	MPEG4, H.263, H.264	
Camcorder	MPEG4, H.263, H.264	
Voice Recording	Yes	
Speaker Phone mode Support	Yes	
Travel Adapter	Yes	
CDROM	No	
Stereo Headset	Yes	Not inbox
Data Cable	Yes	
T-Flash (External Memory)	Yes	Not inbox

### 2.5 SW Features

Item	Feature	Comment
RSSI	0 ~ 4 Levels	
Battery Charging	0 ~ 20 Levels	
Key Volume	0 ~ 7 Level	
Audio Volume	0 ~ 7 Level	
Time / Date Display	Yes	
Multi-Language	Yes	English/French/German/Spanish/It alia n/Danish/Dutch/Korean
Quick Access Mode	Dialing/ Contact / Menu / Message	
PC Sync	Yes	
Speed Dial	Yes	
Profile	Yes	not same with feature phone setting
CLIP / CLIR	Yes	
Phone Book	Name / Number / Email / Website/Postal addresses/Organizations/Groups/ Birthday / Ringtone	There is no limitation on the number of items.  It depends on available memory amount.
Last Dial Number	Yes	Last Dial Numbers, Last Received Numbers and Last Missed Numbers  can store up to a total of 500.
Last Received Number	Yes	Last Dial Numbers, Last Received Numbers and Last Missed Numbers  can store up to a total of 500.
Last Missed Number	Yes	Last Dial Numbers, Last Received Numbers and Last Missed Numbers  can store up to a total of 500.

## 2. PERFORMANCE

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Search by Number / Name	Name	
Group	Yes	There is no limitation on the number of items. It depends on available memory amount.
Fixed Dial Number	Yes	
Service Dial Number	No	
Own Number	Yes	Read only (add/edit/delete are not supported)
Voice Memo	Yes	
Call Reminder	No	
Network Selection	Automatic	
Mute	Yes	
Call Divert	Yes	
Call Barring	Yes	
Call Charge (AoC)	Yes	
Call Duration	Yes	
SMS (EMS)	There is no limitation on the number of items. It depends on available memory amount.	EMS does not support.
SMS Over GPRS	No	
EMS Melody / Picture	No	
Send / Receive / Save	No	
MMS MPEG4 Send / Receive / Save	Yes	
Long Message	MAX 2000 characters	
Cell Broadcast	Yes	
Download	Over the Web	
Game	No	
Calendar	Yes	
Memo	No	

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World Clock	No	
Unit Convert	No	
Stop Watch	No	
Wall Paper	Yes	
WAP Browser	No	Support only web browser based on webkit. WAP stack and wml are not supported.
Download Melody / Wallpaper	Yes	Over web browser
SIM Lock	Yes	Operator Dependent
SIM Toolkit	Class 1, 2, 3, C	
MMS	Yes	Google MMS Client
EONS	No	
CPHS	Yes	V4.2
ENS	No	
Camera	Yes	3M FF / Digital Zoom : x4
JAVA	No	
Voice Dial	No	
IrDa	No	
Bluetooth	Yes	Ver. 3.0
FM radio	Yes	
GPRS	Yes	Class 12
EDGE	Yes	Class 12
Hold / Retrieve	Yes	
Conference Call	Yes	Max. 6
DTMF	Yes	
Memo pad	No	
TTY	No	
AMR	Yes	
SyncML	Yes	
IM	No	
Email	Yes	

### 2.6 HW SPEC.

#### 1) GSM transceiver specification

<b>Item</b>	<b>Specification</b>
Phase Error	Rms : 5° Peak : 20 °
Frequency Error	GSM : 0.1 ppm DCS/PCS : 0.1 ppm
EMC(Radiated Spurious Emission Disturbance)	GSM/DCS : < -28dBm
Transmitter Output power and Burst Timing	GSM : 5dBm – 33dBm ± 3dB DCS/PCS : 0dBm – 30dBm ± 3dB
Burst Timing	<3.69us
Spectrum due to modulation out to less than 1800kHz offset	200kHz : -36dBm 600kHz : -51dBm/-56dBm
Spectrum due to modulation out to larger than 1800kHz offset to the edge of the transmit band	GSM : 1800-3000kHz : < -63dBc(-46dBm) 3000kHz-6000kHz : < -65dBc(-46dBm) 6000kHz < : < -71dBc(-46dBm) DCS : 1800-3000kHz : < -65dBc(-51dBm) 6000kHz < : < -73dBc(-51dBm)
Spectrum due to switching transient	400kHz : -19dBm/-22dBm(5/0), -23dBm 600kHz : -21dBm/-24dBm(5/0), -26dBm
Reference Sensitivity – TCH/FS	Class II(RBER) : -105dBm(2.439%)
Usable receiver input level range	0.012(-15 - -40dBm)
Intermodulation rejection – Speech channels	± 800kHz, ± 1600kHz : -98dBm/-96dBm (2.439%)
AM Suppression	- GSM : -31dBm - DCS : -29dBm -98dBm/-96dBm (2.439%)
Timing Advance	± 0.5T

## 2. PERFORMANCE

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### 2) WCDMA transmitter specification

<b>Item</b>	<b>Specification</b>
Transmit Frequency	Band1 : 1920 MHz ~ 1980 MHz Band8 : 880MHz ~ 915MHz
Maximum Output Power	+24 dBm / 3.84 MHz, +1 / -3 dB
Frequency Error	within ±0.1 PPM
Open Loop Power Control	Normal Conditions : within ±9 dB, Extreme Conditions : within ±12 dB
Minimum Transmit Power	< -50 dBm / 3.84 MHz
Occupied Bandwidth	< 5 MHz at 3.84 Mcps (99% of power)
Adjacent Channel Leakage Power Ratio (ACLR)	> 33 dB @ ±5 MHz, > 43 dB @ ±10 MHz
Spurious Emissions $ f-f_c  > 12.5 \text{ MHz}$	< -36 dBm / 1 kHz RW @ $9 \text{ kHz} \leq f < 150 \text{ kHz}$ < -36 dBm / 10 kHz RW @ $150 \text{ kHz} \leq f < 30 \text{ MHz}$ < -36 dBm / 100 kHz RW @ $30 \text{ MHz} \leq f < 1 \text{ GHz}$ < -30 dBm / 1 MHz RW @ $1 \text{ GHz} \leq f < 12.75 \text{ GHz}$ < -60 dBm / 3.84 MHz RW @ $869 \text{ MHz} \leq f \leq 894 \text{ MHz}$ < -60 dBm / 3.84 MHz RW @ $1930 \text{ MHz} \leq f \leq 1900 \text{ MHz}$ < -60 dBm / 3.84 MHz RW @ $2110 \text{ MHz} \leq f \leq 2155 \text{ MHz}$ < -67 dBm / 100 kHz RW @ $925 \text{ MHz} \leq f \leq 935 \text{ MHz}$ < -79 dBm / 100 kHz RW @ $935 \text{ MHz} < f \leq 960 \text{ GHz}$ < -71 dBm / 100 kHz RW @ $1805 \text{ MHz} \leq f \leq 1880 \text{ MHz}$ < -41 dBm / 300 kHz RW @ $1884.5 \text{ MHz} < f < 1919.6 \text{ MHz}$
Transmit Intermodulation	< -31 dBc @ 5 MHz & < -41 dBc @ 10 MHz when Interference CW Signal Level = -40 dBc
Error Vector Magnitude	< 17.5 %, when $\text{Pout} \geq -20 \text{ dBm}$
Peak Code Domain Error	< -15 dB at $\text{Pout} \geq -20 \text{ dBm}$

## 2. PERFORMANCE

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### 3) WCDMA receiver specification

<b>Item</b>	<b>Specification</b>																								
Receive Frequency	Band1 : 2110 ~ 2170 MHz Band8 : 925~960MHz																								
Reference Sensitivity Level	Band1 : BER < 0.001 when $\hat{I}_{or} = -106.7 \text{ dBm} / 3.84 \text{ MHz}$ Band8 : BER < 0.001 when $\hat{I}_{or} = -103.7 \text{ dBm} / 3.84 \text{ MHz}$																								
Maximum Input Level	BER < 0.001 when $\hat{I}_{or} = -25 \text{ dBm} / 3.84 \text{ MHz}$																								
Adjacent Channel Selectivity (ACS)	ACS > 33 dB where BER < 0.001 when $\hat{I}_{or} = -92.7 \text{ dBm} / 3.84 \text{ MHz}$ & $I_{oac} = -52 \text{ dBm} / 3.84 \text{ MHz} @ \pm 5 \text{ MHz(Band1)}$ $\hat{I}_{or} = -89.7 \text{ dBm} / 3.84 \text{ MHz}$ & $I_{oac} = -52 \text{ dBm} / 3.84 \text{ MHz} @ \pm 5 \text{ MHz(Band8)}$																								
Blocking Characteristic	BER < 0.001 when $\hat{I}_{or} = -103.7 \text{ dBm} / 3.84 \text{ MHz}$ & $I_{blocking} = -56 \text{ dBm} / 3.84 \text{ MHz} @ F_{uw(offset)} = \pm 10 \text{ MHz}$ or $I_{blocking} = -44 \text{ dBm} / 3.84 \text{ MHz} @ F_{uw(offset)} = \pm 15 \text{ MHz}$																								
Spurious Response	BER < 0.001 when $\hat{I}_{or} = -103.7 \text{ dBm} / 3.84 \text{ MHz}$ & $I_{blocking} = -44 \text{ dBm}$																								
Intermodulation	BER < 0.001 when $\hat{I}_{or} = -103.7 \text{ dBm} / 3.84 \text{ MHz}$ , $\hat{I}_{or} = -100.7 \text{ dBm} / 3.84 \text{ MHz(Band8)}$ & $I_{ouw1} = -46 \text{ dBm} @ F_{uw1(offset)} = \pm 10 \text{ MHz}$ & $I_{ouw2} = -46 \text{ dBm} / 3.84 \text{ MHz} @ F_{uw2(offset)} = \pm 20 \text{ MHz}$																								
Spurious Emissions	< -57 dBm / 100 kHz BW @ $9 \text{ kHz} \leq f < 1 \text{ GHz}$ < -47 dBm / 1 MHz BW @ $1 \text{ GHz} \leq f \leq 12.75 \text{ GHz}$																								
Inner Loop Power Control In Uplink	Adjust output(TPC command) <table style="margin-left: auto; margin-right: auto;"> <tr> <td style="text-align: center;">cmd</td> <td style="text-align: center;">1dB</td> <td style="text-align: center;">2dB</td> <td style="text-align: center;">3dB</td> </tr> <tr> <td style="text-align: center;">+1</td> <td style="text-align: center;">+0.5/1.5</td> <td style="text-align: center;">+1/3</td> <td style="text-align: center;">+1.5/4</td> </tr> <tr> <td style="text-align: center;">0</td> <td style="text-align: center;">-0.5/+0.5</td> <td style="text-align: center;">-0.5/+0.5</td> <td style="text-align: center;">-0.5/+0.5</td> </tr> <tr> <td style="text-align: center;">-1</td> <td style="text-align: center;">-0.5/-1.5</td> <td style="text-align: center;">-1/-3</td> <td style="text-align: center;">-1.5/-4</td> </tr> <tr> <td colspan="4" style="text-align: center;">group(10equal command group)</td> </tr> <tr> <td style="text-align: center;">+1</td> <td style="text-align: center;">+8/+12</td> <td style="text-align: center;">+16/+24</td> <td></td> </tr> </table>	cmd	1dB	2dB	3dB	+1	+0.5/1.5	+1/3	+1.5/4	0	-0.5/+0.5	-0.5/+0.5	-0.5/+0.5	-1	-0.5/-1.5	-1/-3	-1.5/-4	group(10equal command group)				+1	+8/+12	+16/+24	
cmd	1dB	2dB	3dB																						
+1	+0.5/1.5	+1/3	+1.5/4																						
0	-0.5/+0.5	-0.5/+0.5	-0.5/+0.5																						
-1	-0.5/-1.5	-1/-3	-1.5/-4																						
group(10equal command group)																									
+1	+8/+12	+16/+24																							

## 2. PERFORMANCE

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### 4) HSDPA transmitter specification

Item	Specification						
Transmit Frequency	Band1 : 1920 MHz ~ 1980 MHz Band8 : 880MHz ~ 915MHz						
Maximum Output Power	Sub-Test  1=1/15,      2=12/15      21~25dBm / 3.84 MHz 3=13/15      4=15/8      20~25dBm / 3.84 MHz 5=15/7      6=15/0      19~25dBm / 3.84 MHz						
HS-DPCCH	Sub-test in table C.10.1.4	Power step	Power step slot boundary	Power step size, P [dB]	Transmitter power step tolerance [dB]		
	5	1	Start of Ack/Nack	6	+/- 2.3		
		2	Start of CQI	1	+/- 0.6		
		3	Middle of CQI	0	+/- 0.6		
		4	End of CQI	5	+/- 2.3		
Spectrum Emission Mask	Sub-Test : 1=1/15, 2=12/15, 3=13/15, 4=15/8, 5=15/7, 6=15/0						
	Frequency offset from carrier $\Delta f$		Minimum requirement		Measurement Bandwidth		
	2.5 ~ 3.5 MHz		-35-15 $\times(\Delta f-2.5)$ dBc		30 kHz		
	3.5 ~ 7.5 MHz		-35-1 $\times(\Delta f-3.5)$ dBc		1 MHz		
	7.5 ~ 8.5 MHz		-35-10 $\times(\Delta f-7.5)$ dBc		1 MHz		
	8.5 ~ 12.5 MHz		-49dBc		1 MHz		
Adjacent Channel Leakage Power Ratio (ACLR)	Sub-Test : 1=1/15, 2=12/15, 3=13/15, 4=15/8, 5=15/7, 6=15/0  > 33 dB @ $\pm 5$ MHz  > 43 dB @ $\pm 10$ MHz						
Error Vector Magnitude	< 17.5 %, when Pout $\geq$ -20 dBm						

## 2. PERFORMANCE

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### 5) HSDPA receiver specification

Item	Specification
Receive Frequency	Band1 : 2110 MHz ~ 2170 MHz Band8 : 925 MHz ~ 960 MHz
Maximum Input Level (BLER or R), 16QAM Only	Sub-Test : 1=1/15, 2=12/15, 3=13/15, 4=15/8, 5=15/7, 6=15/0 BLER < 10% or R >= 700kbps

### 6) WLAN 802.11b transceiver specification

Item	Specification
Transmit Frequency	2400 MHz ~ 2483.5 MHz ( CH1~CH13 )
Tx Power Level	≤ 20dBm under (Europe), ≤ 30dBm under (USA)
Frequency Tolerance	within ±25 PPM
Chip clock Frequency Tolerance	within ±25 PPM
Spectrum Mask	≤ -30 @ fc-22MHz < f < fc-11MHz and fc+11MHz < f < fc+22MHz ≤ -50 @ f < fc-22MHz and f > fc+22MHz
Power ramp on/off time	≤ 2us
Carrier Suppression	≤ -15dB
Modulation Accuracy (Peak EVM)	≤ 35%
Spurious Emissions	< -36 dBm @ 30MHz ~ 1GHz < -30 dBm above @ 1GHz ~ 12.75GHz < -47 dBm @ 1.8GHz ~ 1.9GHz < -47 dBm @ 5.15GHz ~ 5.3GHz
Rx Min input Sensitivity	≤ -76dBm(1Mbps,2Mbps,5.5Mbps,11Mbps) @ FER ≤ 8%
Rx Max input Sensitivity	≥ -10dBm(1Mbps,2Mbps,5.5Mbps,11Mbps) @ FER ≤ 8%
Rx Adjacent Channel Rejection	≥ 35dB @FER ≤ 8%, interference input signal -70dBm@fc±25MHz(11Mbps)

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### 7) WLAN 802.11g transceiver specification

<b>Item</b>	<b>Specification</b>
Transmit Frequency	2400 MHz ~ 2483.5 MHz ( CH1~CH13 )
Tx Power Level	$\leq 20\text{dBm}$ under (Europe), $\leq 30\text{dBm}$ under (USA)
Frequency Tolerance	within $\pm 25$ PPM
Chip clock Frequency Tolerance	within $\pm 25$ PPM
Spectrum Mask	$\leq -20$ @ $\pm 11\text{MHz}$ offset (9Mhz ~ 11MHz) $\leq -28$ @ $\pm 20\text{MHz}$ offset (11MHz ~ 20Mhz) $\leq -40$ @ $\pm 30\text{MHz}$ offset (20MHz ~ 30Mhz)
Transmitter constellation error (rms EVM)	$\leq -5\text{dB}$
Spurious Emissions	$< -36\text{ dBm}$ @ 30MHz ~ 1GHz $< -30\text{ dBm}$ above @ 1GHz ~ 12.75GHz $< -47\text{ dBm}$ @ 1.8GHz ~ 1.9GHz $< -47\text{ dBm}$ @ 5.15GHz ~ 5.3GHz
Rx Min input Sensitivity	PER $\leq 10\%$ $-82\text{dBm}@6\text{Mbps}, -81\text{dBm}@9\text{Mbps}, -79\text{dBm}@12\text{Mbps}$ $-77\text{dBm}@18\text{Mbps}, -74\text{dBm}@24\text{Mbps}, -70\text{dBm}@36\text{Mbps}$ $-66\text{dBm}@48\text{Mbps}, -65\text{dBm}@54\text{Mbps}$
Rx Max input Sensitivity	$\geq -20\text{dBm}(6,9,12,18,24,36,48,54\text{Mbps})$ @ PER $\leq 10\%$
Rx Adjacent Channel Rejection	PER $\leq 10\%$ , ACR $\geq 16\text{dB}@6\text{Mbps}, \text{ACR} \geq 15\text{dB}@9\text{Mbps},$ $\text{ACR} \geq 13\text{dB}@12\text{Mbps}, \text{ACR} \geq 11\text{dB}@18\text{Mbps},$ $\text{ACR} \geq 8\text{dB}@24\text{Mbps}, \text{ACR} \geq 4\text{dB}@36\text{Mbps}$ $\text{ACR} \geq 0\text{dB}@48\text{Mbps}, \text{ACR} \geq -1\text{dB}@54\text{Mbps}$ ※ ACR shall be measured by setting the desired signal's strength 3 dB above the rate-dependent sensitivity specified in min input sensitivity

## 2. PERFORMANCE

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### 8) WLAN 802.11n transceiver specification

<b>Item</b>	<b>Specification</b>
Transmit Frequency	2400 MHz ~ 2483.5 MHz (CH1~CH13)
Tx Power Level	≤ 20dBm under (Europe), ≤ 30dBm under (USA)
Frequency Tolerance	within ±25 PPM
Chip clock Frequency Tolerance	within ±25 PPM
Spectrum Mask	≤ -20 @ ±11MHz offset (9Mhz ~ 11MHz) ≤ -28 @ ±20MHz offset (11MHz ~ 20Mhz) ≤ -45 @ ±30MHz offset (20MHz ~ 30Mhz)
Transmitter constellation error (rms EVM)	≤ -5dB@6.5Mbps / ≤ -10dB@13Mbps ≤ -13dB@19.5Mbps / ≤ -16dB@26Mbps ≤ -19dB@39Mbps / ≤ -22dB@52Mbps ≤ -25dB@58.5Mbps / ≤ -28dB@65Mbps
Spurious Emissions	< -36 dBm @ 30MHz ~ 1GHz < -30 dBm above @ 1GHz ~ 12.75GHz < -47 dBm @ 1.8GHz ~ 1.9GHz < -47 dBm @ 5.15GHz ~ 5.3GHz
Rx Min input Sensitivity	PER ≤ 10% -82dBm@6Mbps -82dBm@6.5Mbps / -79dBm@13Mbps -77dBm@19.5Mbps / -74dBm@26Mbps -70dBm@39Mbps / -66dBm@52Mbps -65dBm@58.5Mbps / -64dBm@65Mbps
Rx Max input Sensitivity	≥ -20dBm(6.5,13,19.5,26,39,52,58.5,65Mbps) @ PER ≤ 10%
Rx Adjacent Channel Rejection	PER ≤ 10% ACR ≥ 16dB@6.5Mbps / ACR ≥ 13dB@13Mbps ACR ≥ 11dB@19.5Mbps / ACR ≥ 8dB@26Mbps ACR ≥ 4dB@39Mbps / ACR ≥ 0dB@52Mbps ACR ≥ -1dB@58.5Mbps / ACR ≥ -2dB@65Mbps
	* ACR shall be measured by setting the desired signal's strength 3 dB above the rate-dependent sensitivity specified in min input sensitivity

### 9) GPS receiver specification

<b>Item</b>	<b>Specification</b>
Receive Frequency	1574.42 MHz ~ 1576.42 MHz
Minimum Sensitivity	1 satellite ≥-142dBm, 7 satellites ≥ -147dBm at coarse time aiding

## 3. CIC AND SERVICE CENTER

### 3.1 CIC FAQ

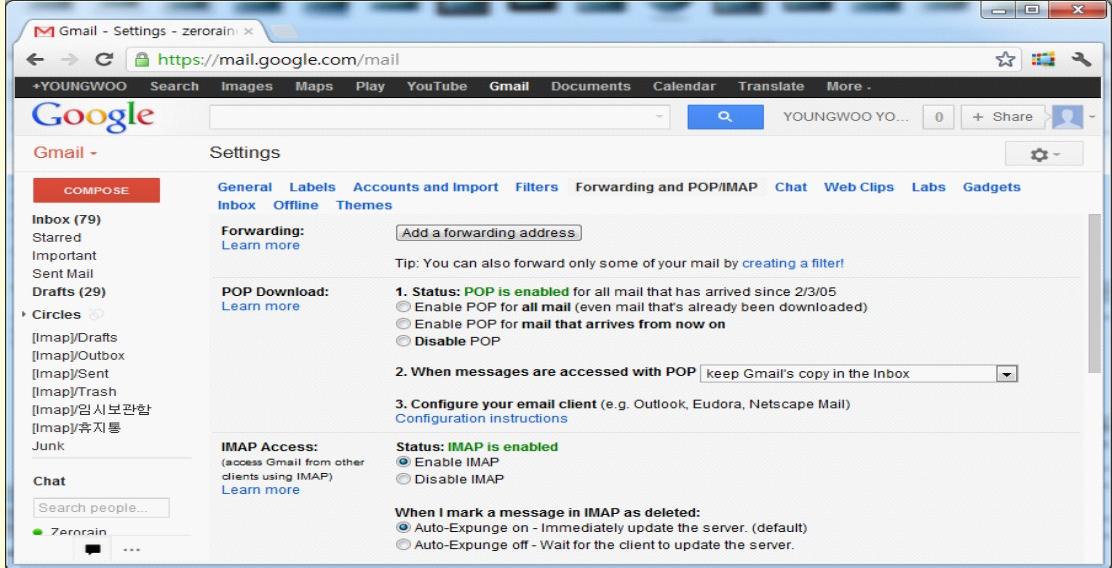
No	FAQ	Q&A
1	<b>Q</b>	I forgot my PhoneLock password.
	<b>A</b>	<ol style="list-style-type: none"><li>1. Applied Recovery mode. (When phone is powered off, press the bottom volume key and power key at the same time. Once LED is turned on at the bottom, press home key while releasing the keys you pressed. It goes to Recovery mode menu.)</li><li>2. Check the staff in charge of manual</li><li>3. Press 3845#*615# on dial menu in normal status, go to WCDMA ONLY -&gt; Factory Reset will start.</li></ol>
		<ol style="list-style-type: none"><li>1. How to disable Pattern Lock, Password and PIN.</li><li>2. Request for checking out it is specified in the user manual.</li><li>3. Descriptions on HW factory reset key combination and how to do it.</li></ol>
2	<b>Q</b>	What should I do to add or remove files to and from the SD card?
	<b>A</b>	<ol style="list-style-type: none"><li>1. Connect USB - Select MTP</li></ol>
		<ol style="list-style-type: none"><li>1.PC&lt;-&gt; SD CARD</li><li>2.PHONE&lt;-&gt; SD CARD</li></ol>
3	<b>Q</b>	3G connection does not work properly abroad.
	<b>A</b>	Other continents except Europe, 3G can be unavailable due to the difference of frequency. But GSM connection is available so you can call or receive SMS.
		ex) 1. Europe<->Europe 2. Europe<->Continent(North America, Asia etc).

### 3. CIC AND SERVICE CENTER

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No	FAQ	Q&A
4	<b>Q</b>	What should I do to deal with the wrong GPS location?
	<b>A</b>	<p>Your current location may not accurate depending on the location in use. (Open sky, indoor, semi indoor)</p> <ul style="list-style-type: none"><li>- You may check Google location service under Open sky condition by following Setting &gt; Location Services &gt; GPS satellite, Google location service</li><li>- It may be less accurate under indoor/semi indoor condition if phone fails to find satellite even after GPS satellite and Google location service.</li></ul>
5	<b>Q</b>	What should I do to deal with the incompatible apps downloaded?
	<b>A</b>	1. Uninstall
6	<b>Q</b>	What should I do to create an email account?
	<b>A</b>	<p>You should check if data is available when you initiate your account. (You need to check if data is available under Wi-Fi and Local state)</p> <p>If data is available, you can proceed after entering ID and Password.</p>

### 3. CIC AND SERVICE CENTER

No	FAQ	Q&A
7	<b>Q</b>	Email registration does not work.
	<b>A</b>	<p>1. For Exchange account, enter ID and PW and press Next button. You may have to select manually 'Accept all certificates'</p> <p>2. For POP/IMAP account, you may have to change the settings of account. You need to check if the account you are using is available for POP/IMAP. (e.g. Google Mail)</p>  <p>The screenshot shows the Gmail Settings page for account 'zerorain'. The 'Forwarding and POP/IMAP' tab is selected. Under 'POP Download:', the status is set to 'POP is enabled' for all mail since 2/3/05. There are four radio button options: 'Enable POP for all mail (even mail that's already been downloaded)', 'Enable POP for mail that arrives from now on', 'Disable POP', and 'When messages are accessed with POP [keep Gmail's copy in the Inbox]'. Under 'IMAP Access:', the status is set to 'IMAP is enabled'. There are two radio button options: 'Enable IMAP' (selected) and 'Disable IMAP'. At the bottom, there is a note about marking messages as deleted: 'When I mark a message in IMAP as deleted: Auto-Expunge on - Immediately update the server. (default)' and 'Auto-Expunge off - Wait for the client to update the server.'</p>
8	<b>Q</b>	Apps not in use appear as programs in use even when I kill them.
	<b>A</b>	Preload application is not killed.

### 3. CIC AND SERVICE CENTER

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No	FAQ	Q&A
9	Q	Wi-Fi connection does not work properly.
	A	<p>There may be many reasons that Wi-Fi is not connected. Please, check followings.</p> <ol style="list-style-type: none"><li>1. Check if Wi-Fi is turned ON.</li><li>2. AP information and the information user enter can be different.<ol style="list-style-type: none"><li>1) For your access, check security type and password of AP security information.</li><li>2) AP information can be renewed. "Forget" the former AP by clicking and try again to connect when AP list is newly updated.</li></ol></li><li>3. Check if you are trying to connect AP which requires you authorization by mobile carriers.<ol style="list-style-type: none"><li>1) If your device is not authorized by carrier, you may not be able to connect or use Wi-Fi.</li></ol></li><li>4. In case of the problem on DHCP server, dynamic IP address may not be allocated. If so, please find AP manager.</li></ol>
10	Q	What should I do to install the PC Sync Program?
	A	Go to <a href="http://www.lgmobile.co.kr">http://www.lgmobile.co.kr</a> and press "Smartphone" next to PC initiation program on upper central part. Download LG PC Suite (for models after PRADA) or LG Mobile Sync for Android (for models before PRADA) and execute the program to install. You should install both of LG USB Driver and WindowMediaPlayer10 or newer (for LG PC Suite).
11	Q	What should I do to install the Phone Driver?
	A	You can download it from phone manual or the website of LG Electronics.

### 3. CIC AND SERVICE CENTER

No	FAQ	Q&A
12	<b>Q</b>	How to connect internet/data network
	<b>A</b>	<ol style="list-style-type: none"><li>1. Data On in Setting menu. (Settings &gt; More... &gt; Mobile networks &gt; Data enabled &gt; check)</li><li>2. Data On in Notification Bar. (--&gt; Drag Notification Bar down to screen and activate Data Icon) (Data Icon setting: Drag Notification Bar down to screen &gt; Edit &gt; Setting on upper right &gt; Data enabled &gt; check)</li></ol>
13	<b>Q</b>	What should I do to connect the PC Sync program with the phone?
	<b>A</b>	<ol style="list-style-type: none"><li>1. For USB connection : After attaching phone to PC with a USB, set USB connection type on phone as "LG software" and click on the connection button to PC Suite program. Desktop&gt;Menu button&gt;system setting&gt;connectivity&gt;USB connection type</li><li>2. For Wifi connection: Connect phone and PC with the same AP (same Wi-Fi)&gt;Desktop&gt;Menu buoon&gt;system setting&gt;connectivity&gt;check the checkbox of PC Suite Wi-Fi connection below and press OK. Search phone by pressing Wi-Fi connection button on PC Suite&gt;Once phone is found, select it and press connection button.</li></ol>
14	<b>Q</b>	Can I change the language setting?
	<b>A</b>	Settings-language input - language
15	<b>Q</b>	What should I do for Reset and Factory Reset?
	<b>A</b>	reset : settings - back up and reset -factory data reset factory reset : 3845#*615# - WCDMA only - factory reset

### 3. CIC AND SERVICE CENTER

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No	FAQ	Q&A
16	<b>Q</b>	What should I do to change the bell sound?
	<b>A</b>	settings- sounds
17	<b>Q</b>	Is it compatible with other devices?
	<b>A</b>	bluetooth, wifi direct, wifi
ex) 1. Bluetooth 2. other		
18	<b>Q</b>	What should I do to use HDMI?
	<b>A</b>	Not available
19	<b>Q</b>	What should I do to solve HDMI error?
	<b>A</b>	Not available
20	<b>Q</b>	What should I do to use SmartShare?
	<b>A</b>	Select smart share application -> Connect WiFi / WiFi direct
21	<b>Q</b>	What should I do to deal with Smartshare error?
	<b>A</b>	See when wifi is not connected. In case that it is not running even if network is connected, ask service center or R&D.

### 3. CIC AND SERVICE CENTER

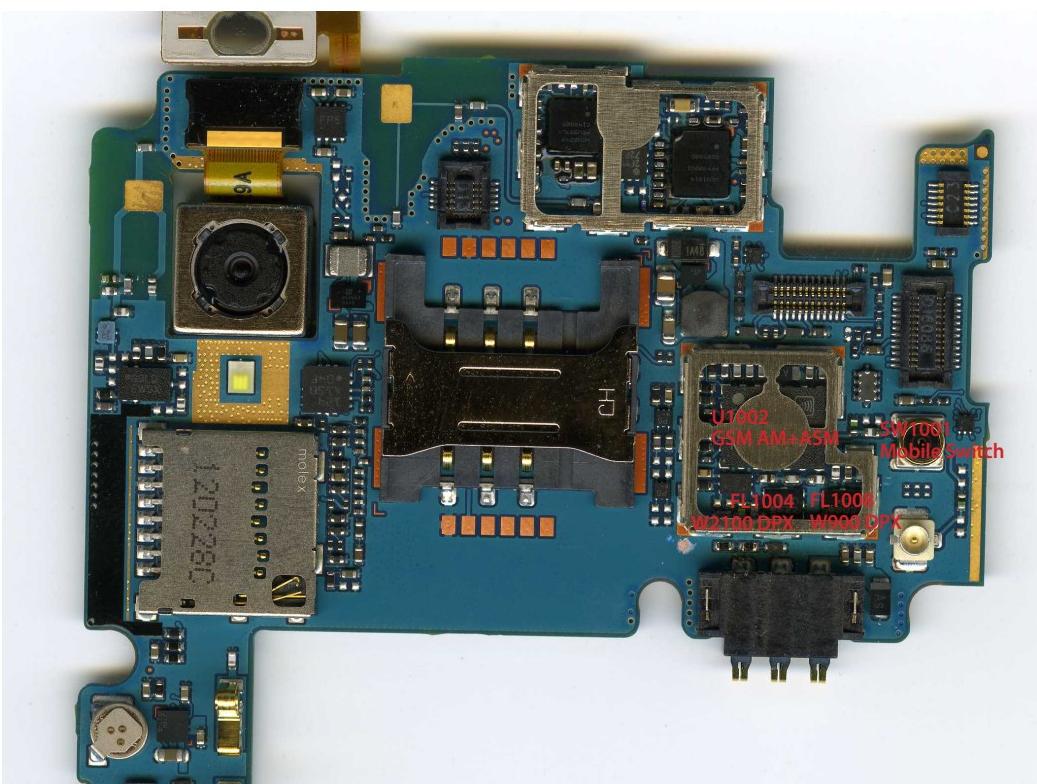
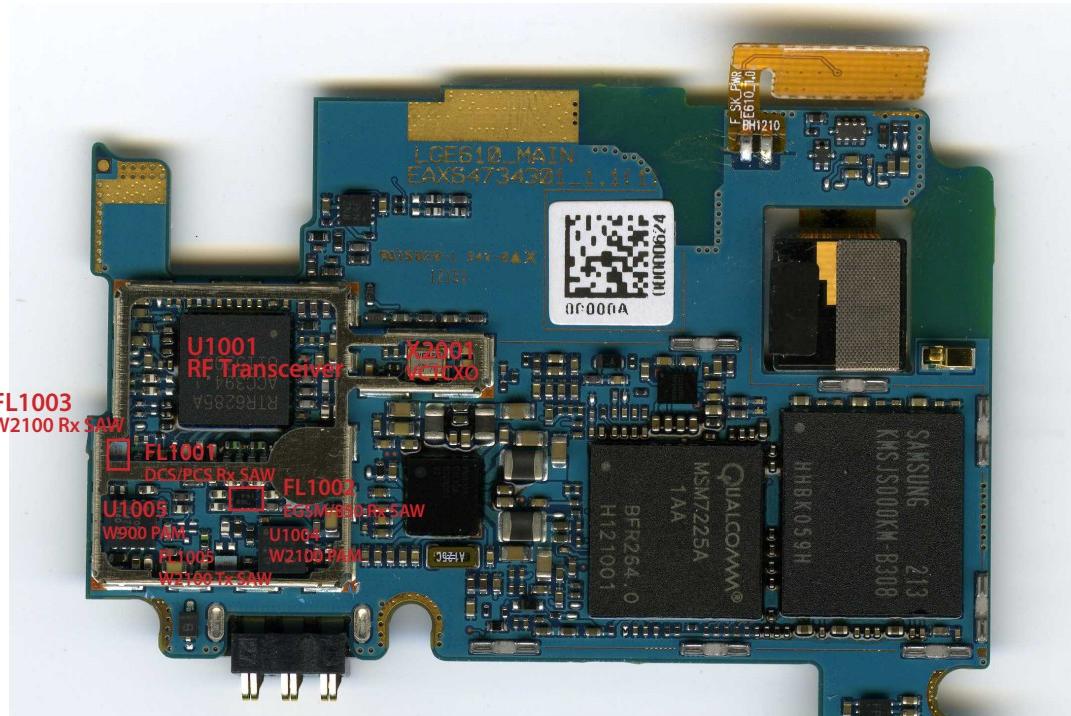
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No	FAQ	Q&A
22	<b>Q</b>	My battery runs out so fast.
	<b>A</b>	Check if applications not in use are running (menu-app settings), Set LCD brightness down. Disable Bluetooth, WiFi, 3G Data, GPS when do not use. Use Power save mode.
23	<b>Q</b>	What should I do to find out the schedule for new releases of OS or SW?
	<b>A</b>	Notice on the webpage of LG Electronics / Ask Service Center
24	<b>Q</b>	What should I do to update SW?
	<b>A</b>	Visit Service Center / web download
25	<b>Q</b>	What about the warranty period and limit?
	<b>A</b>	It is not Development department-related issue.
26	<b>Q</b>	What kinds of phone accessories are there?
	<b>A</b>	Battery, TA, Data cable, User Guide, Ear-set, External Memory(2GB), NFC Tag -> In-box item list is different depending on region.
27	<b>Q</b>	We ask you for more than 3 Qs&As expected regarding new products, features and other specific things.
	<b>A</b>	Q1. For use of Dual Sim, is 3G SIM available to both SIM1 and SIM2? Yes, it is. Q2. For use of Dual Sim, can I take a new call from SIM2 during the call from SIM1? Yes, the call from SIM1 is hold and you can take new call from SIM2. Q3. For connection to N/W, can I set a connection through only one certain SIM ? Yes, On Setting menu, you can set default data network.

## 4. TROUBLE SHOOTING

### 4. TROUBLE SHOOTING

#### 4.1 RF Component



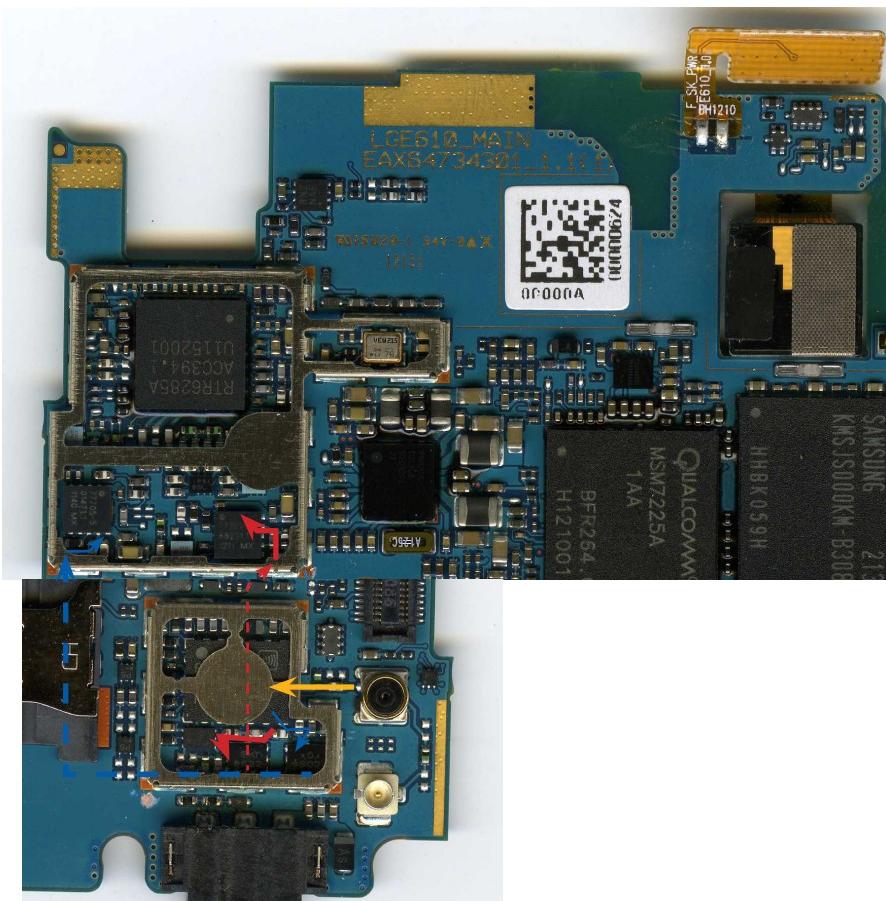
## 4. TROUBLE SHOOTING

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### RF component (WCDMA / GSM)

Reference	Description	Reference	Description
U1001	RTR6285A(Transceiver)	FL1008	WCDMA (VIII) Duplexer
U1002	GSM TX Module (ASM+GSM PAM)	FL1003	WCDMA (I) RX SAW Filter
U1004	WCDMA (I) PAM	FL1002	EGSM/850 Rx saw filter
U1005	WCDMA (VIII) PAM	FL1001	DCS/PCS Rx saw filter
FL1005	WCDMA (I) TX SAW Filter	X2001	VCTCXO(19.2MHz)
FL1004	WCDMA (I) Duplexer	SW1001	RF Antenna Connector

### 4.2 SIGNAL PATH



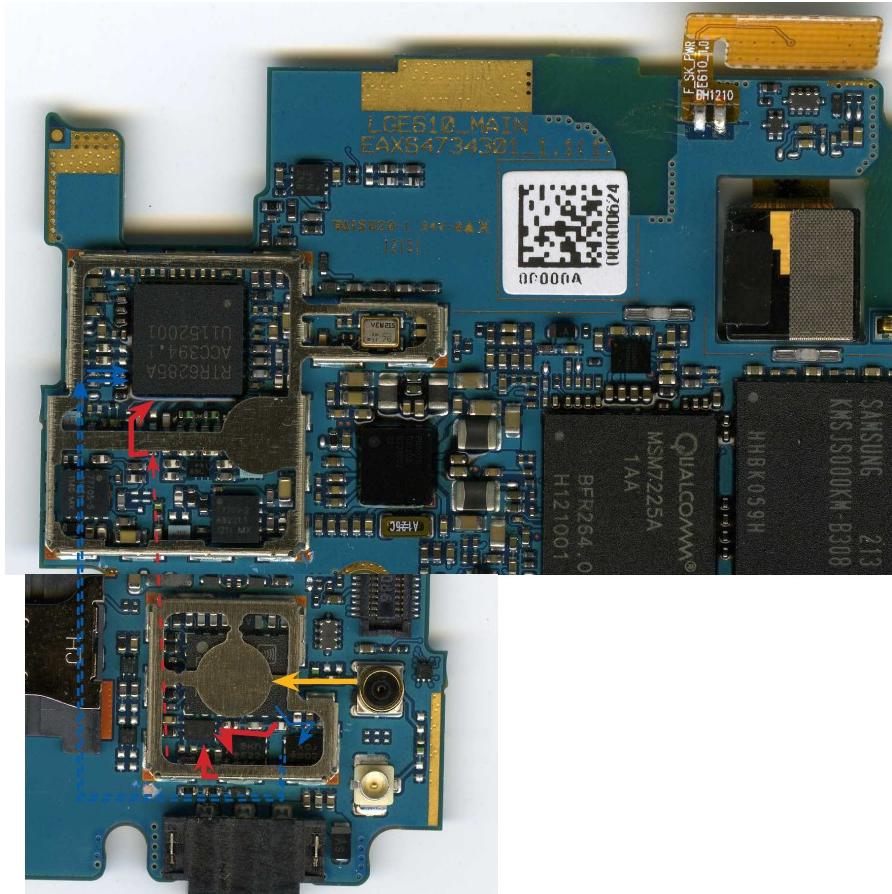
#### WCDMA I and VIII Band TX Signal PATH

D2. WCDMA 2100 TX PATH

E2. WCDMA 900 TX PATH

F1. COMMON TX/RX PATH

## 4. TROUBLE SHOOTING



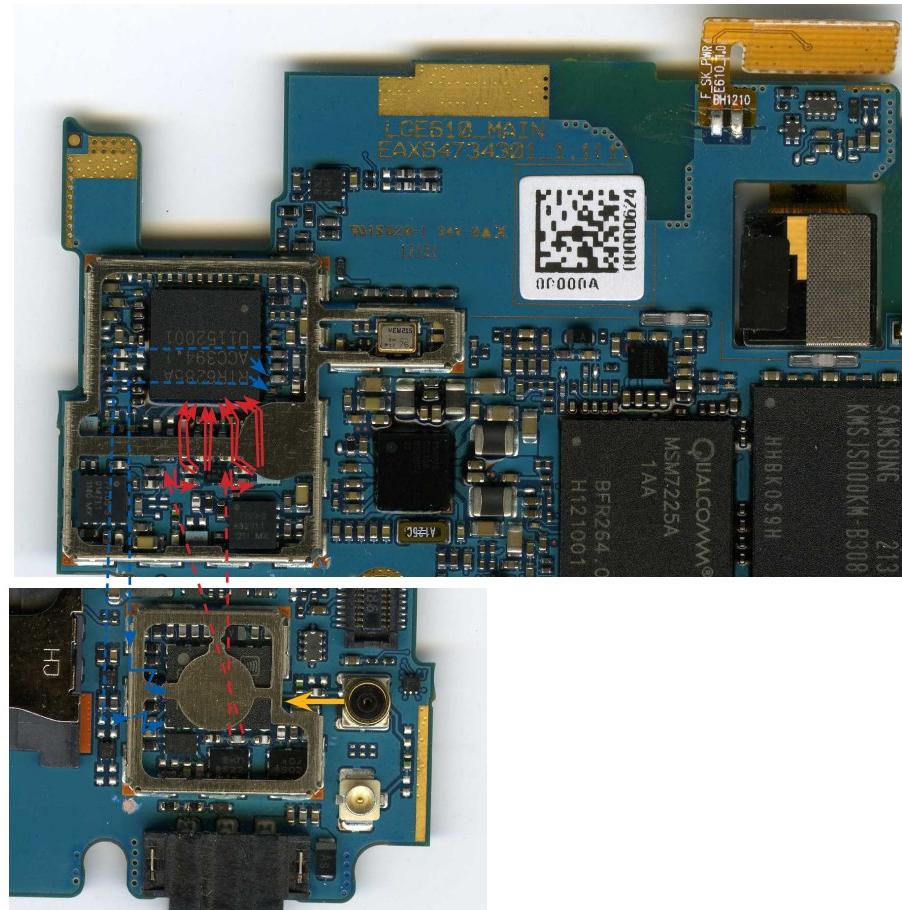
### WCDMA I and VIII Band RX Signal PATH

**D1. WCDMA 2100 RX PATH**

**E1. WCDMA 900 RX PATH**

**F1. COMMON TX/RX PATH**

## 4. TROUBLE SHOOTING



### GSM850/GSM900/DCS/PCS's RX/TX Signal PATH

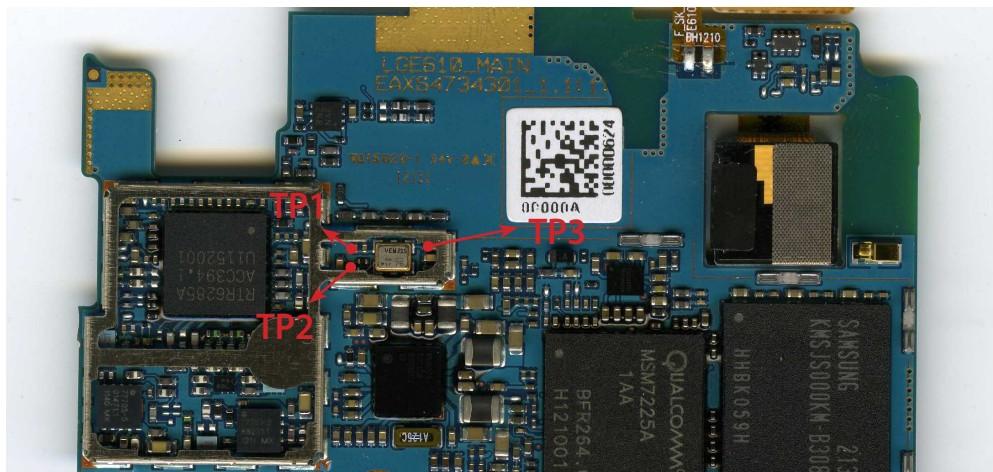
**A. GSM850/GSM900/DCS1800/PCS1900 RX PATH**

**B. GSM850/GSM900/DCS1800/PCS1900 TX PATH**

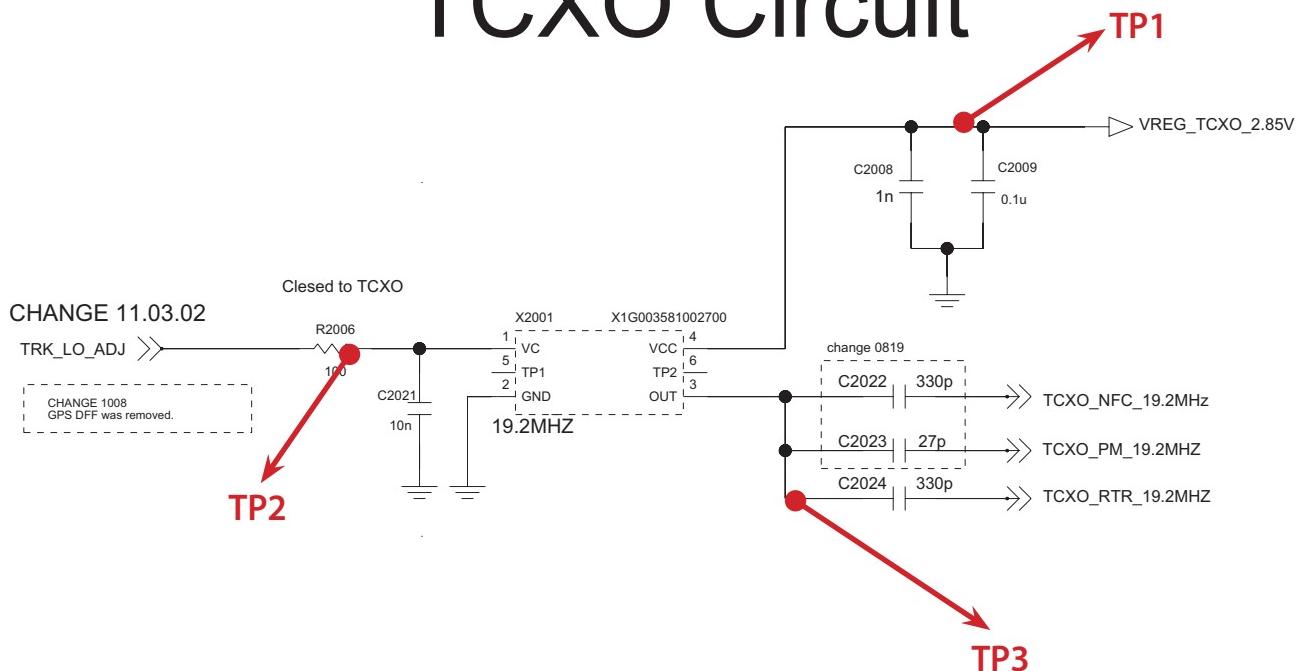
**C1. COMMON TX/RX PATH**

### 4.3 Checking TCXO Block

The output frequency (19.2MHz) of TCXO (X2001) is used as the reference one of RTR6285A and PM8029 internal VCO.

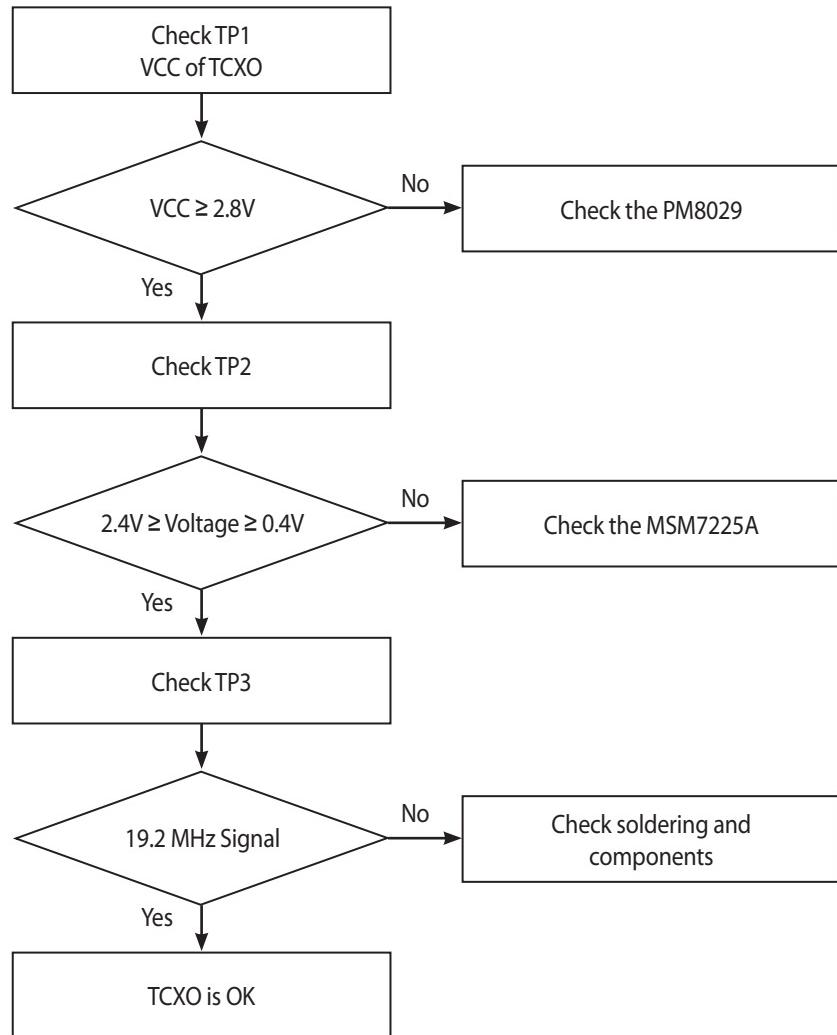


### TCXO Circuit

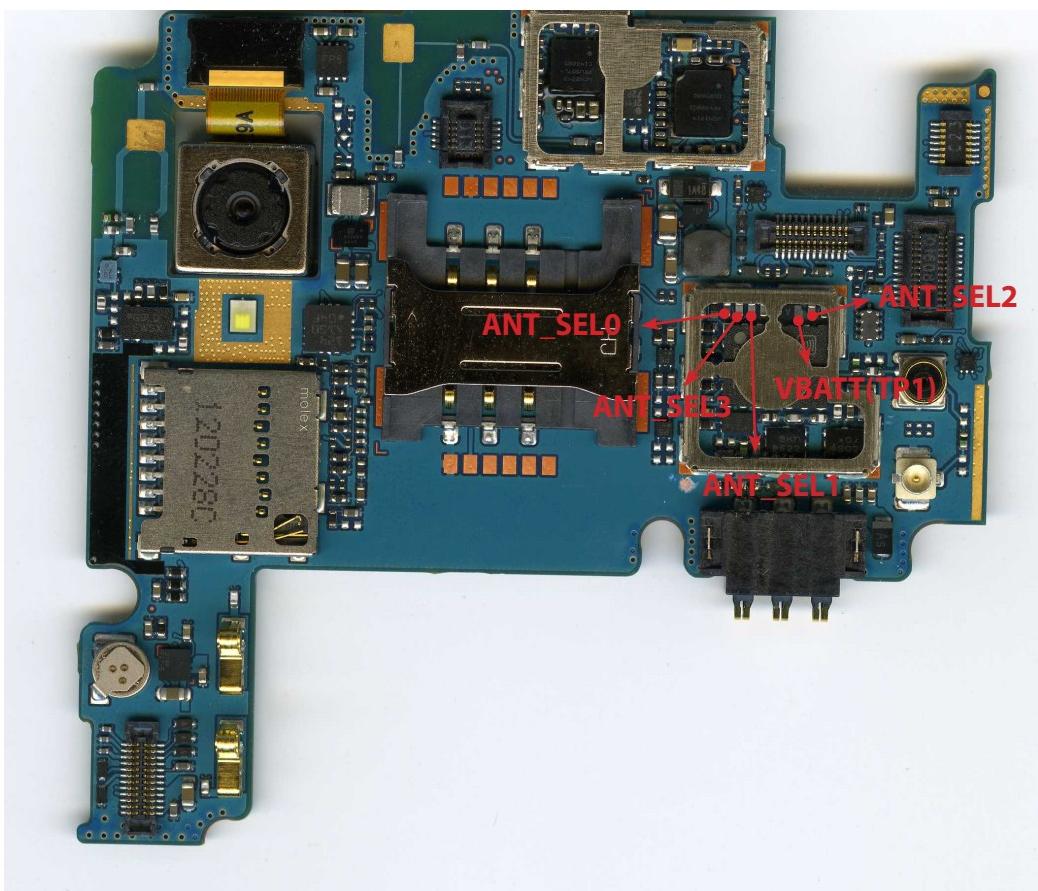


## 4. TROUBLE SHOOTING

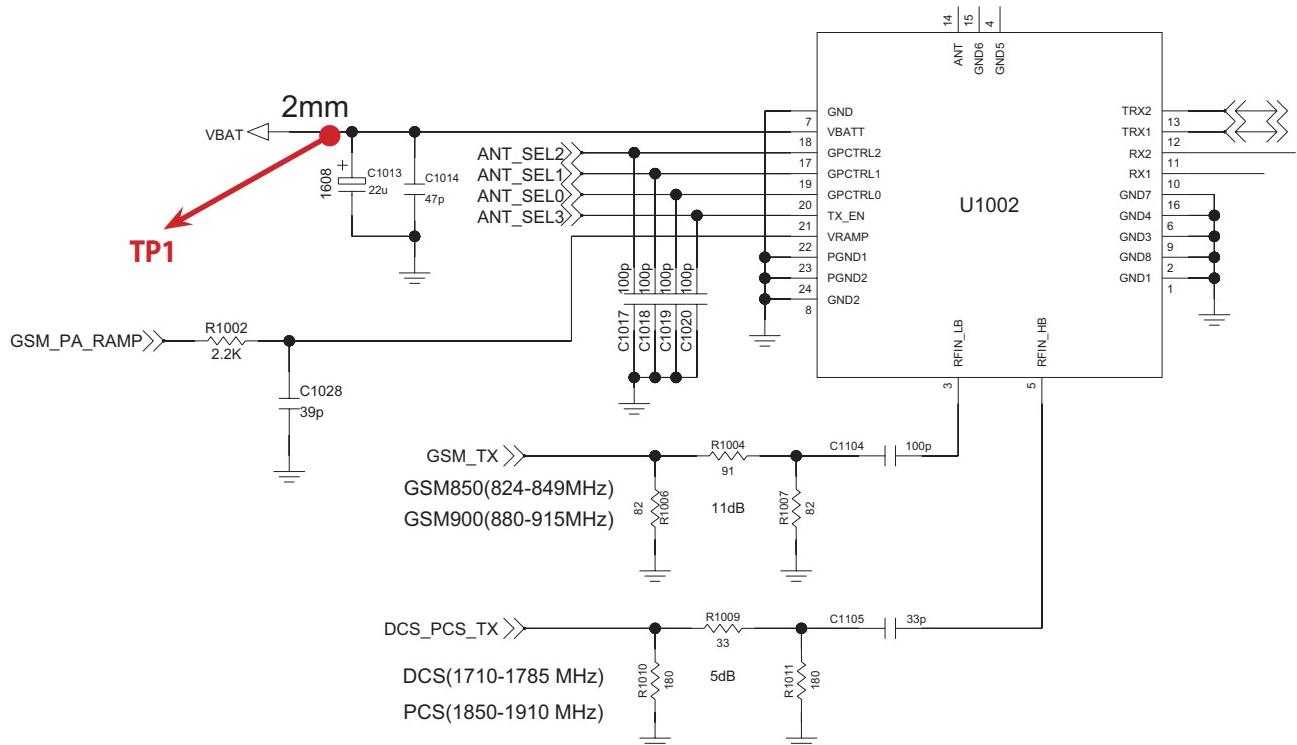
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### 4.4 Checking GSM TX Module(GSM PAM + ASM) Block



## 4. TROUBLE SHOOTING

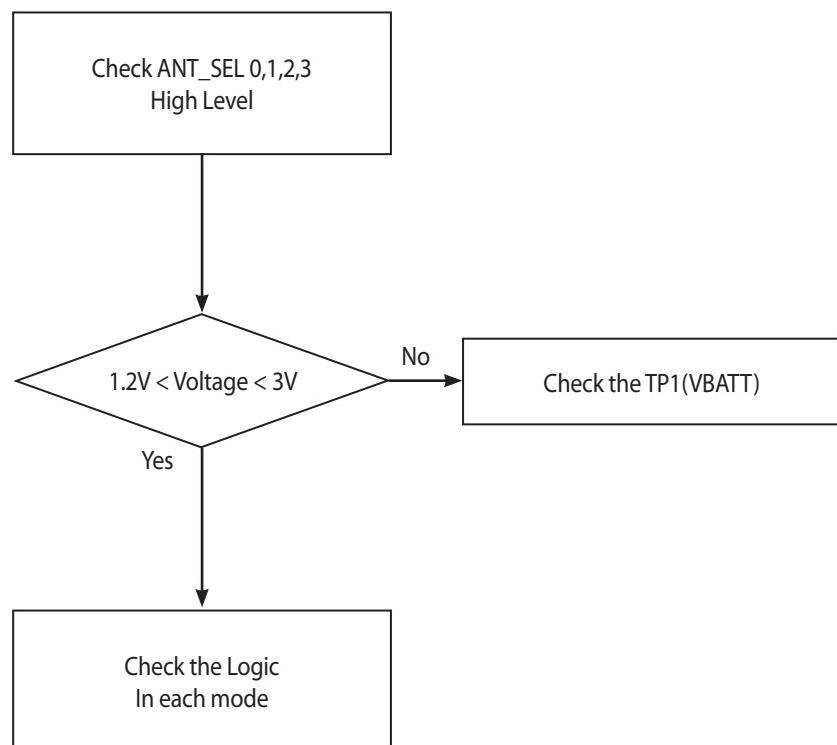


Schematic of the Antenna Switch Block

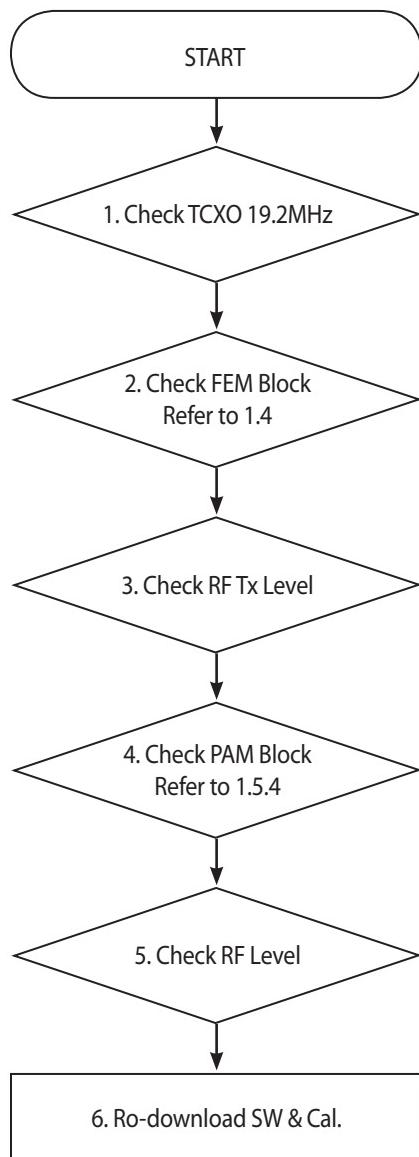
### Module Control and Antenna Switch Logic

ANT_SEL 3	ANT_SEL 2	ANT_SEL 1	ANT_SEL 0	Tx Module Mode
0	0	0	0	Standby
0	1	0	0	Rx1
0	0	1	0	Rx2
0	0	1	1	TRX1
0	0	0	1	TRX2
1	0	1	0	Low Band GMSK
1	0	1	1	High Band GMSK

### Checking Switch Block Power Source



### 4.5 Checking WCDMA Block



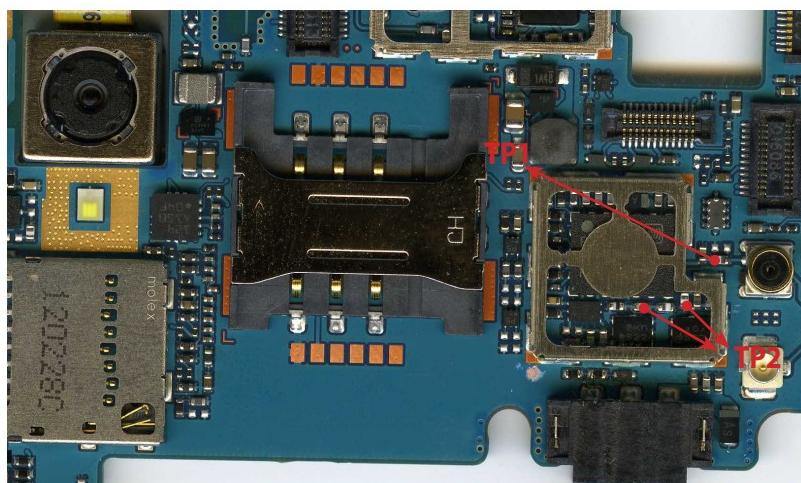
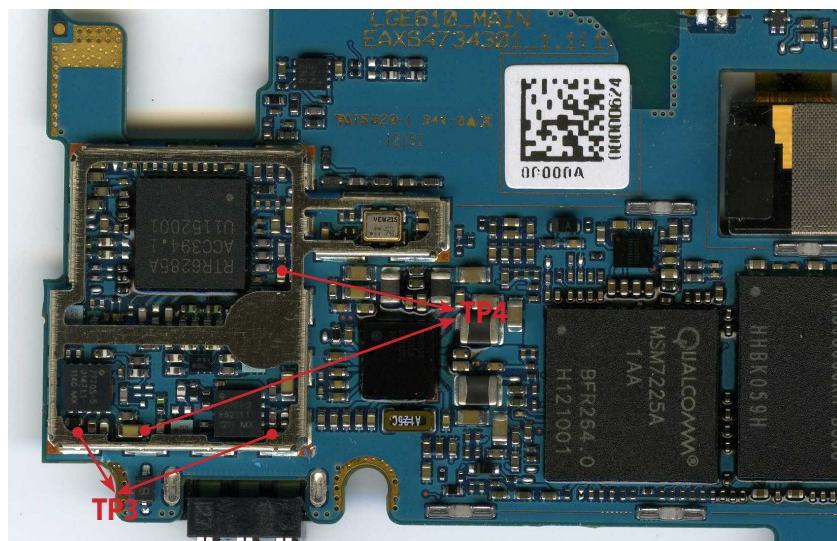
### 4.5.1 Checking TCXO Block

Refer to 4.3

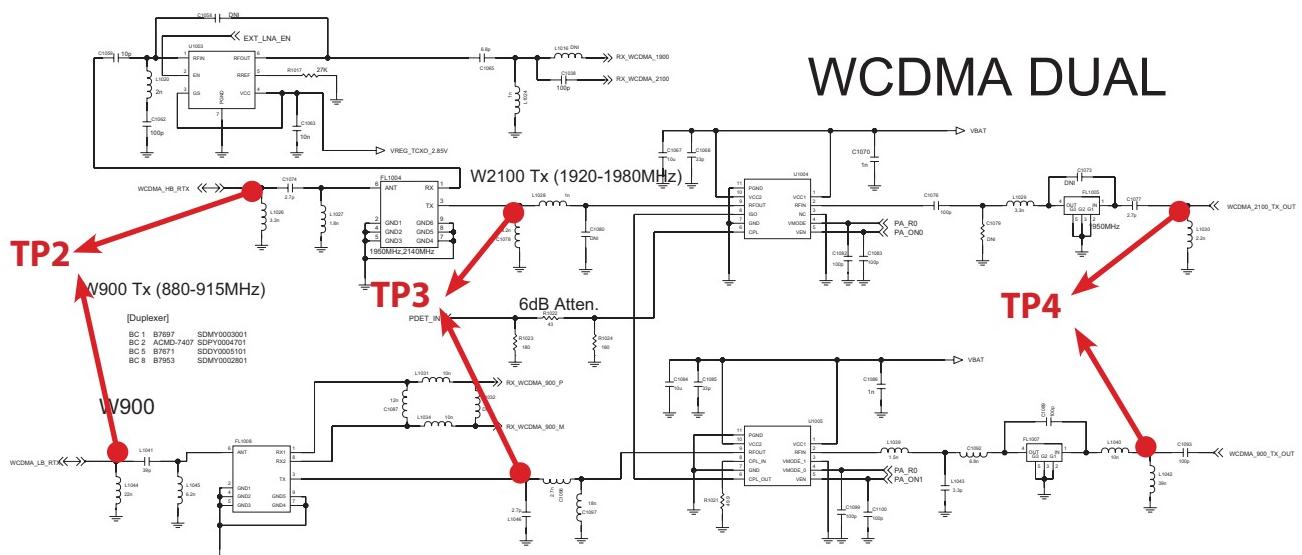
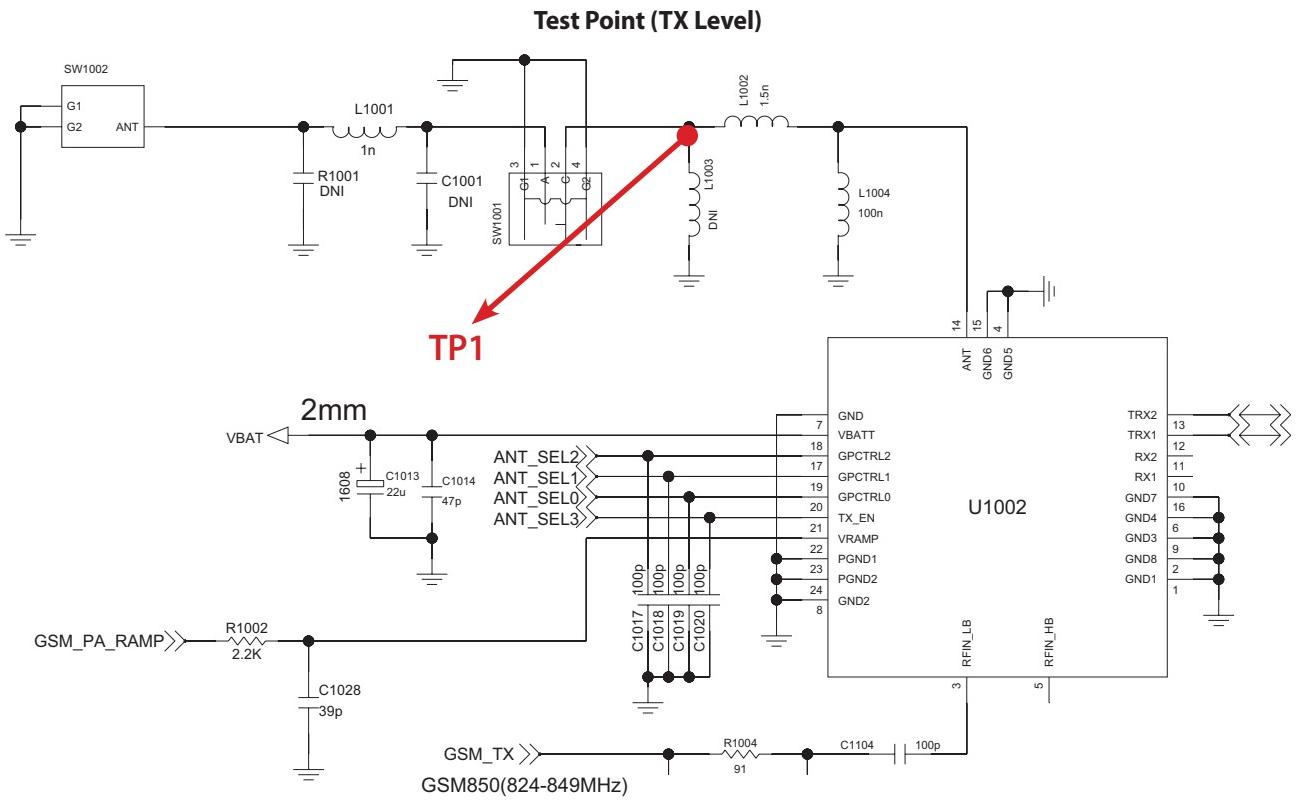
### 4.5.2. Checking Tx Module Block

Refer to 4.4

### 4.5.3. Checking RF TX Level

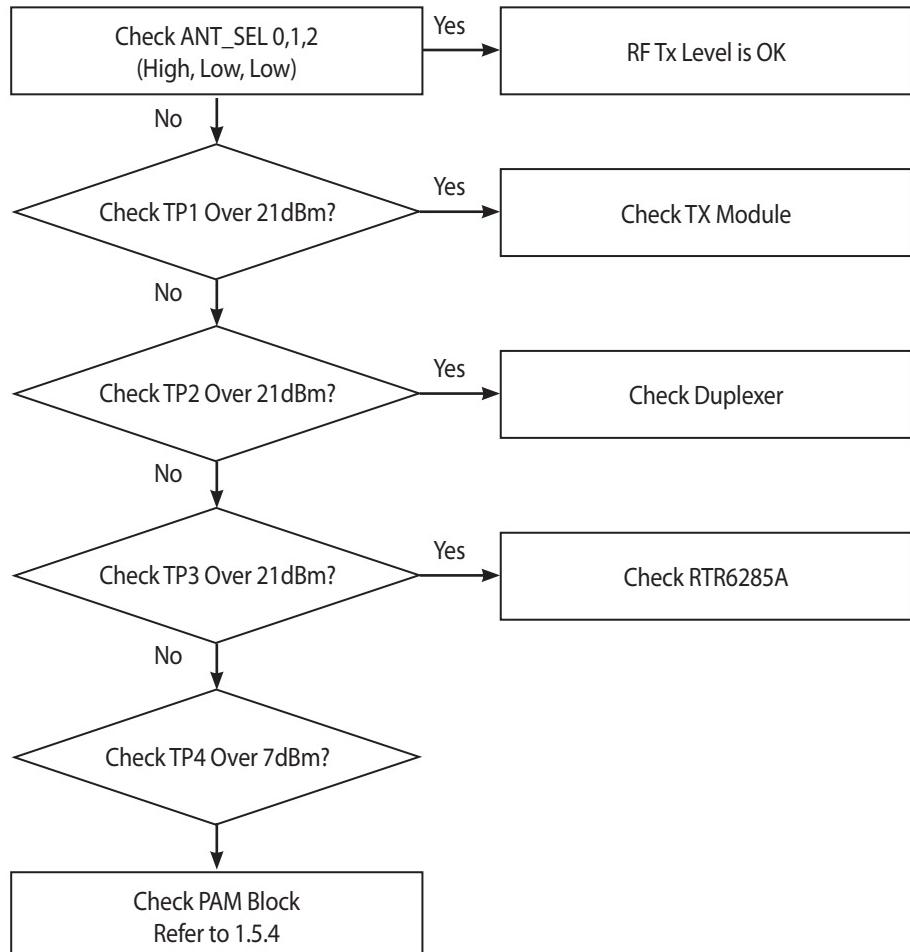


## **4. TROUBLE SHOOTING**



**For testing, Max power output is needed.**

## 4. TROUBLE SHOOTING



RTR6285 Maximum output Power = 7 dBm

RTR6285 minimum output Power = -80 dBm

PAM(ACPM-5281) = Maximum input Power = 10 dBm

### 4.5.4. Checking PAM Block

#### PAM Control Signal

PA\_ON0 (C1085), PA\_ON1(C1100) : PAM Enable

PA\_R0: PAM Gain Control

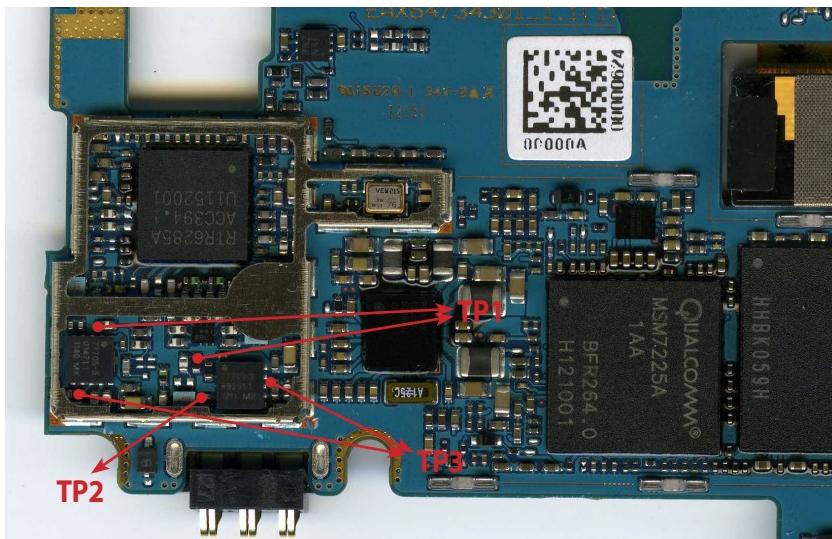
PA\_ON must be HIGH (over 2.6V)

#### PAM IN/OUT Signal :

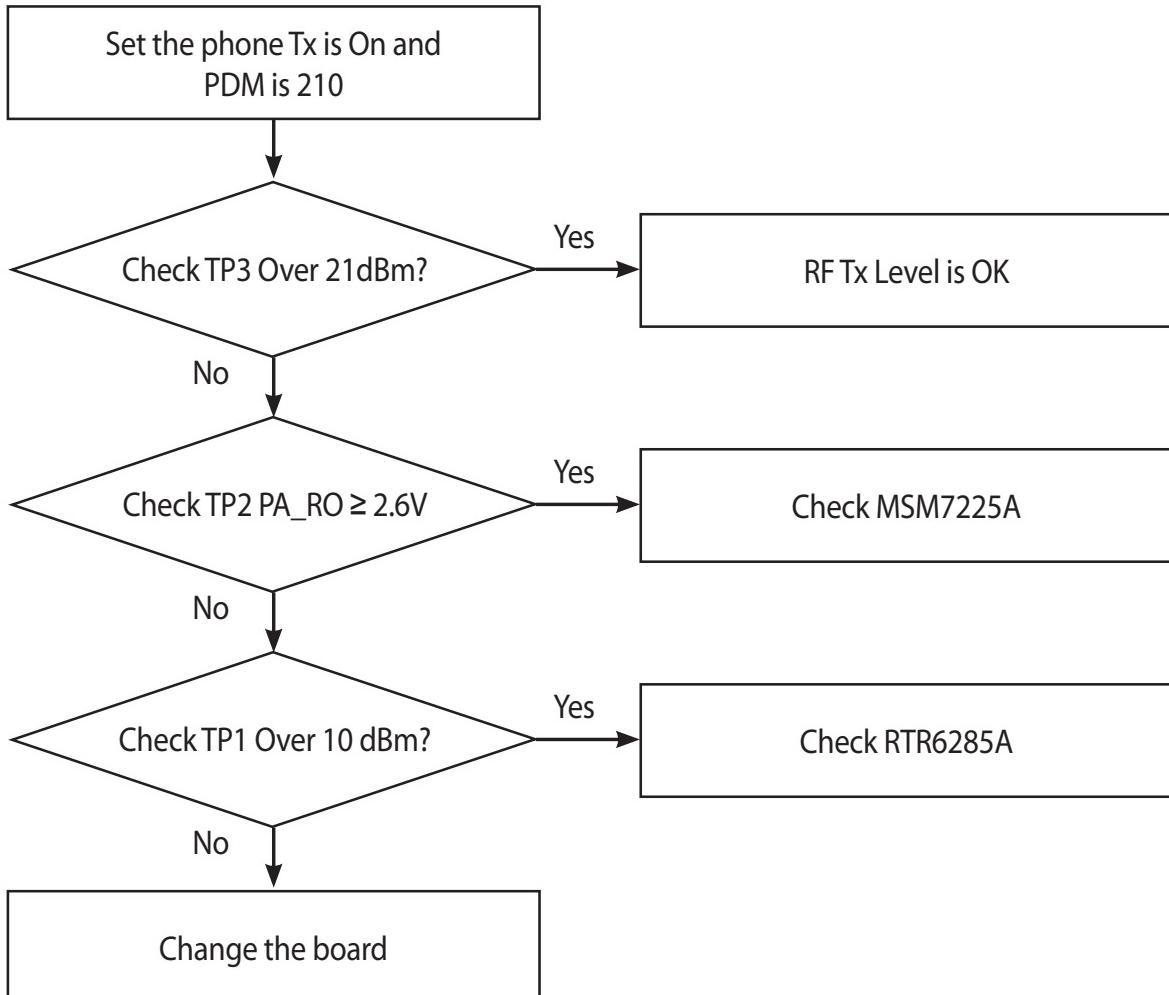
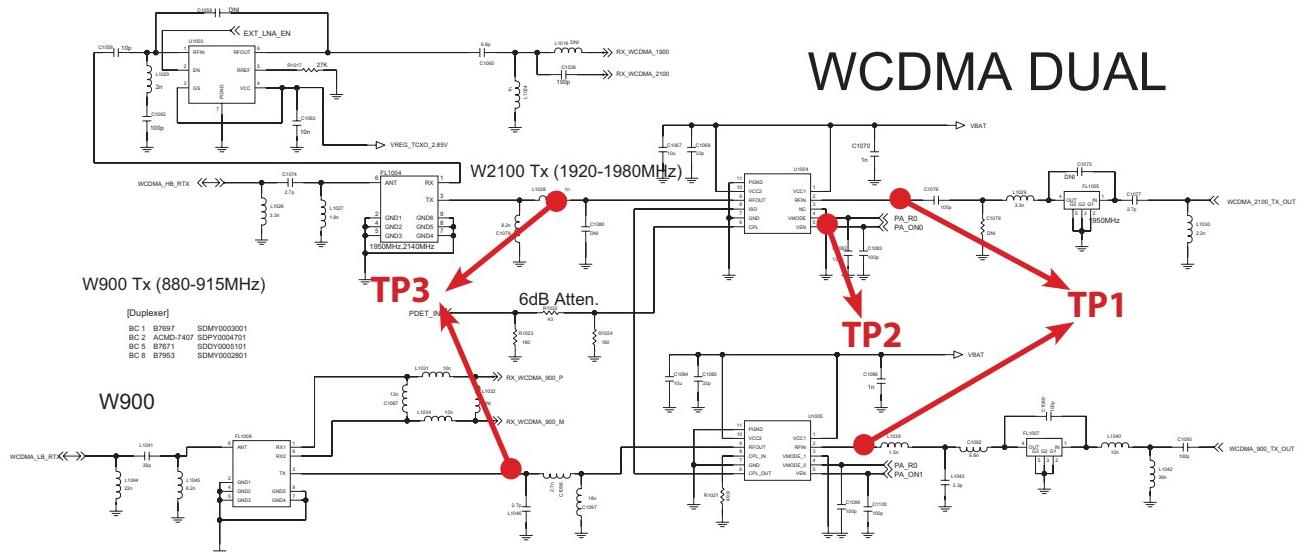
When PAM is under the operation of high power mode (PA\_R0(C1085) : Low),

PAM OUT power must be over 21 dBm

PAM IN power must be under 10 dBm

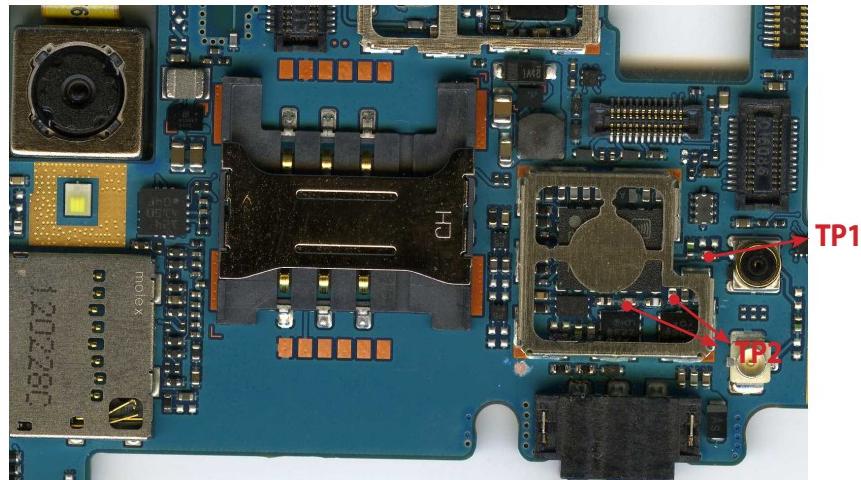
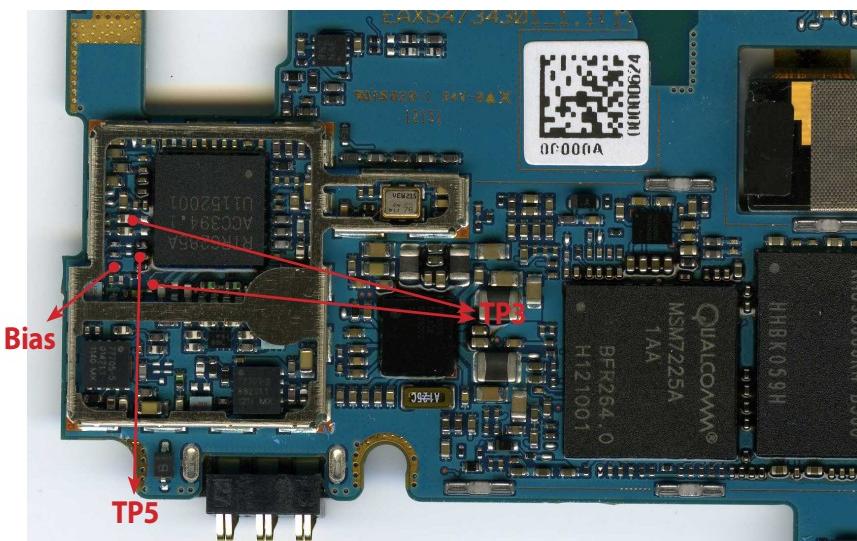


## 4. TROUBLE SHOOTING

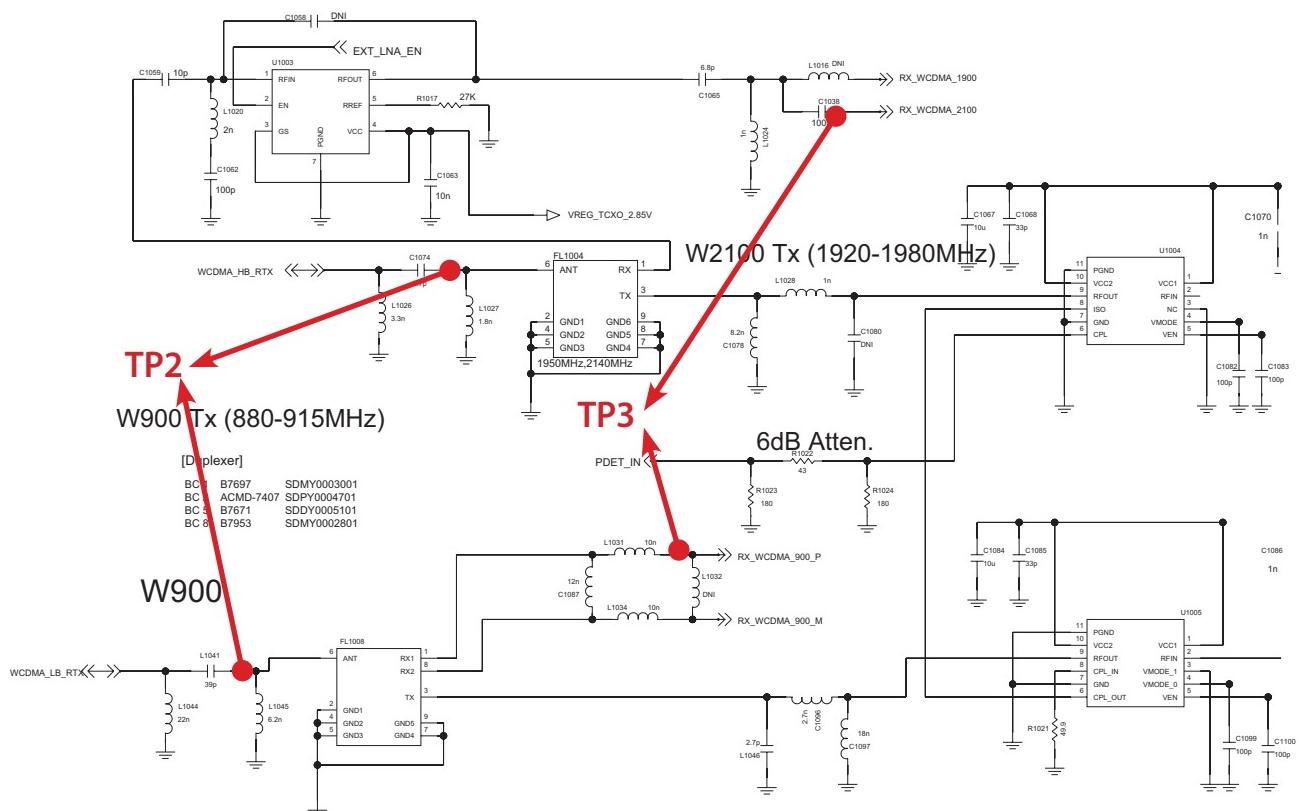
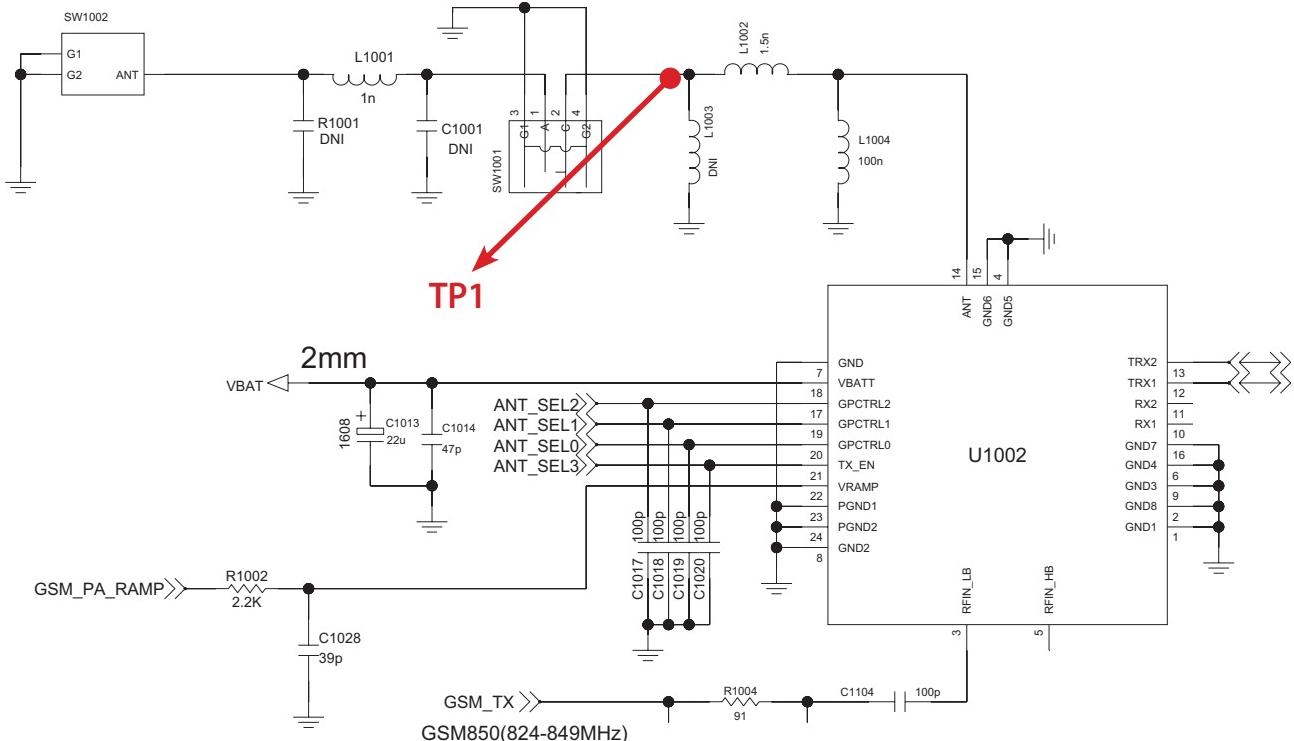


### 4.5.5. Checking RF Rx Level

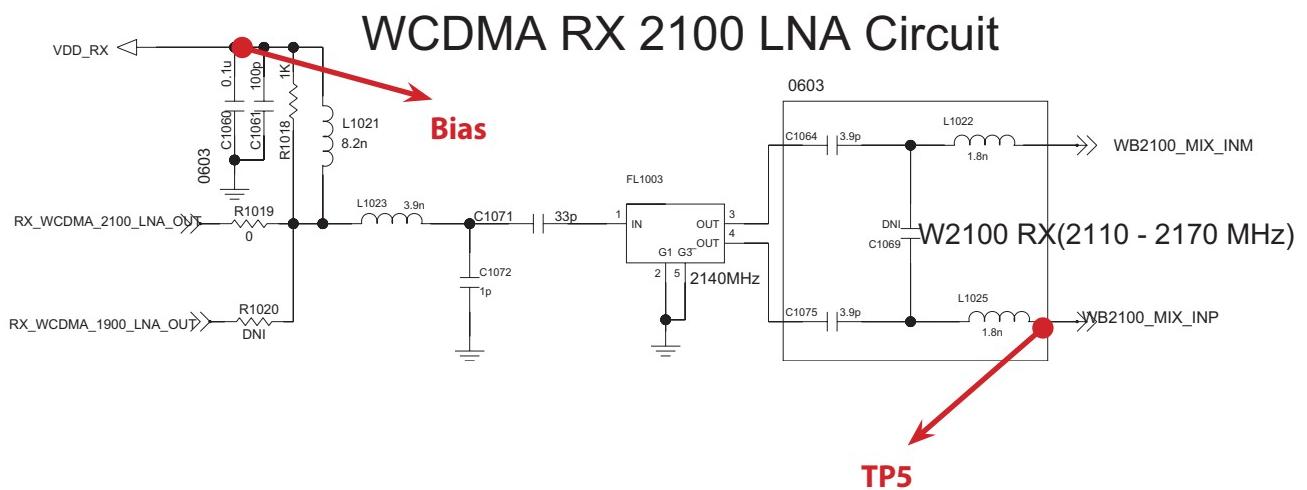
Test Point (RF Rx Level)



## 4. TROUBLE SHOOTING

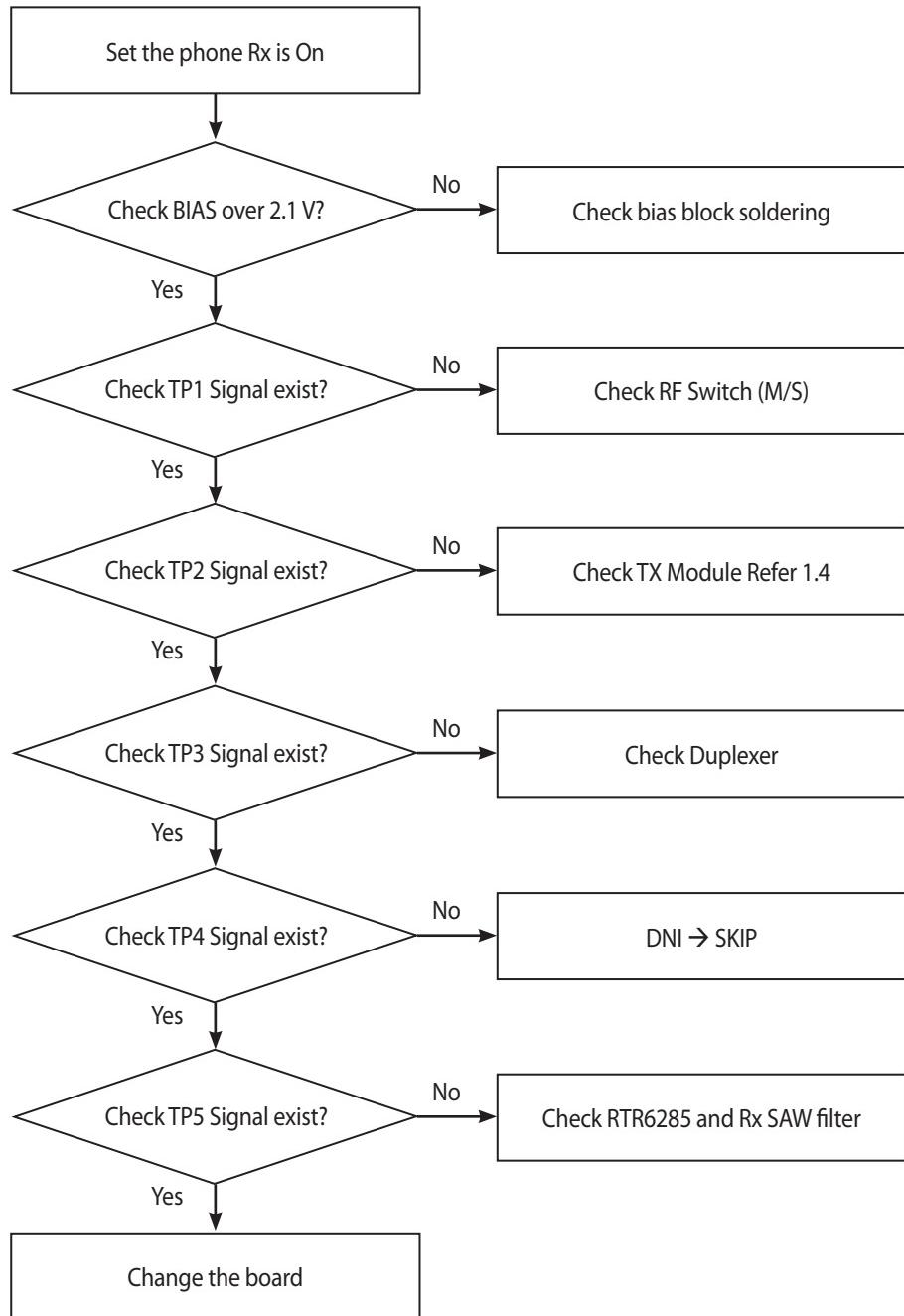


## 4. TROUBLE SHOOTING

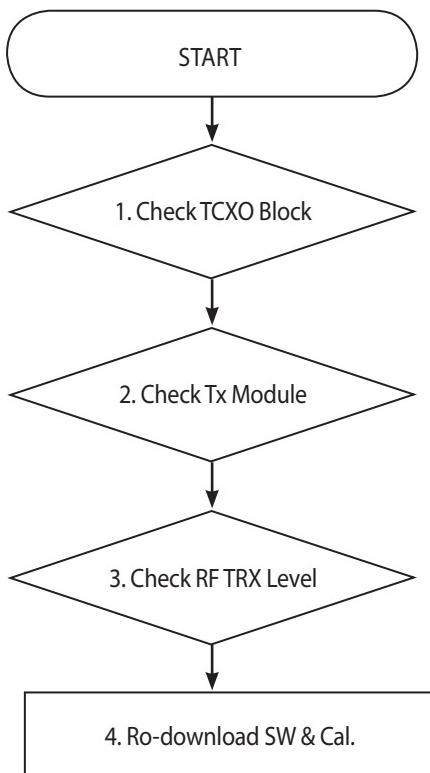


## 4. TROUBLE SHOOTING

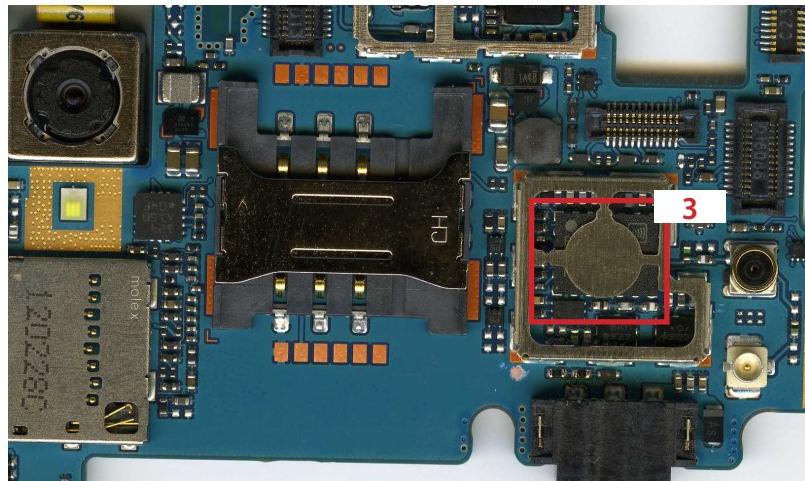
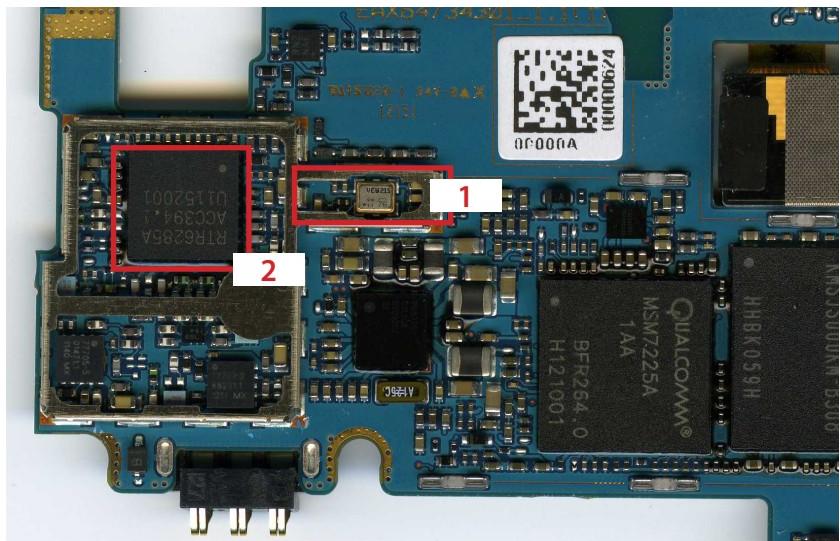
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### 4.6 Checking GSM Block



## 4. TROUBLE SHOOTING



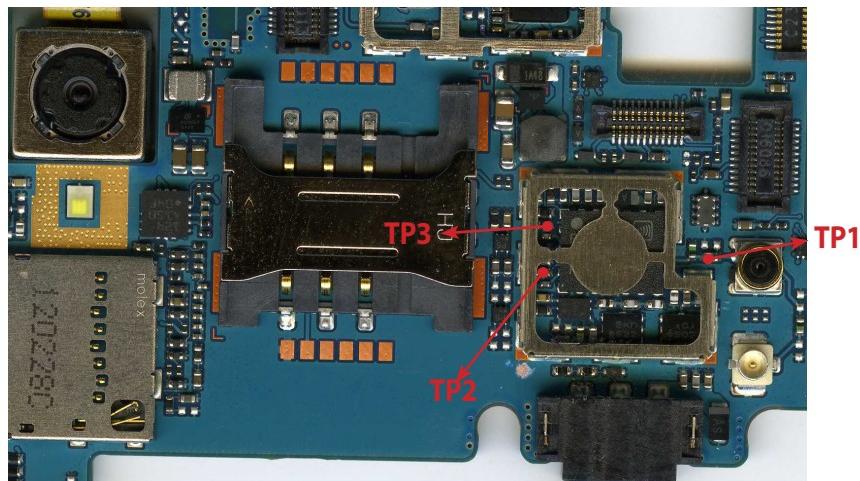
### 4.6.1 Checking TCXO Block

Refer to 4.3

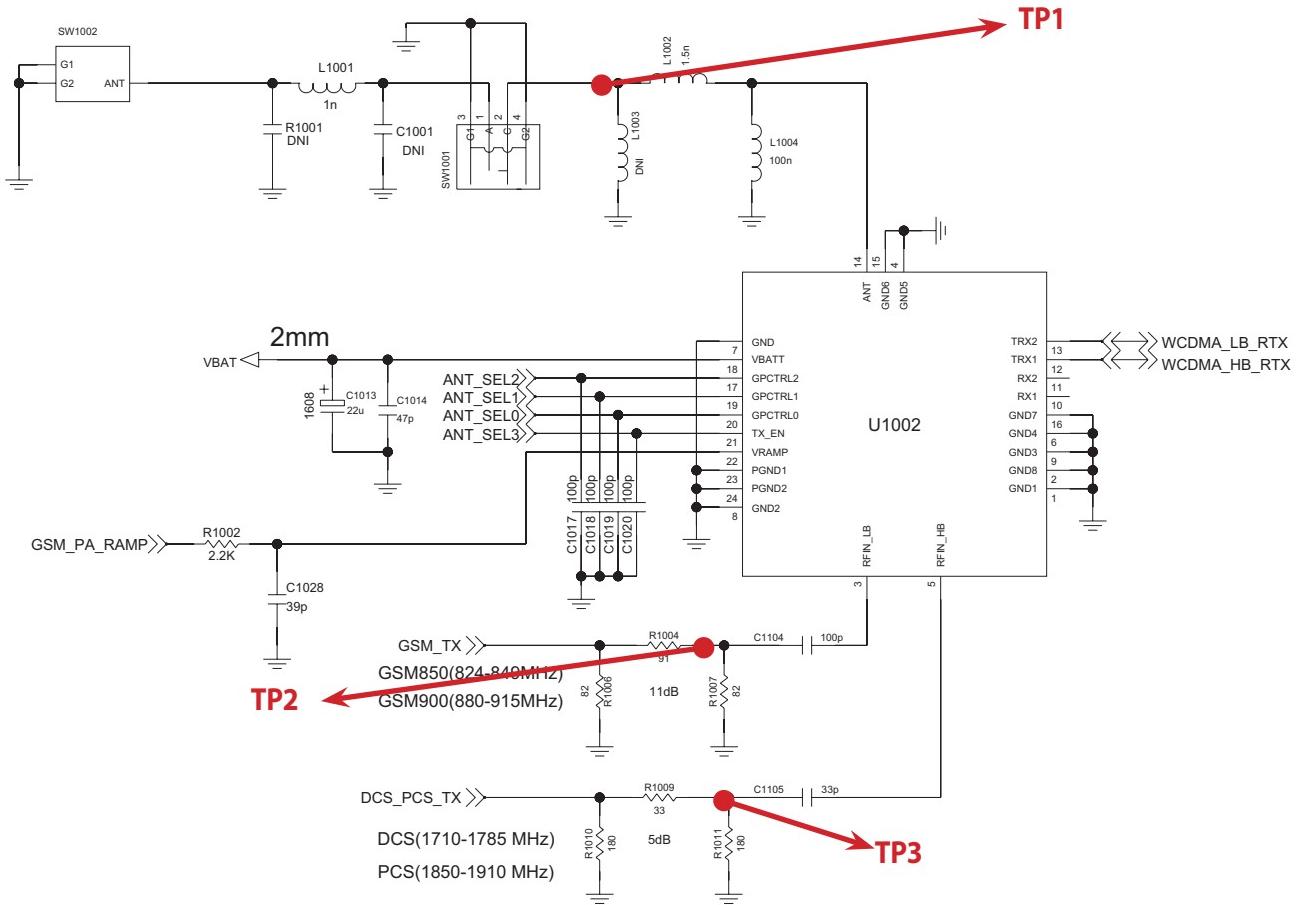
### 4.6.2 Checking Tx module Block

Refer to 4.4

### 4.6.3 Checking RF TX level

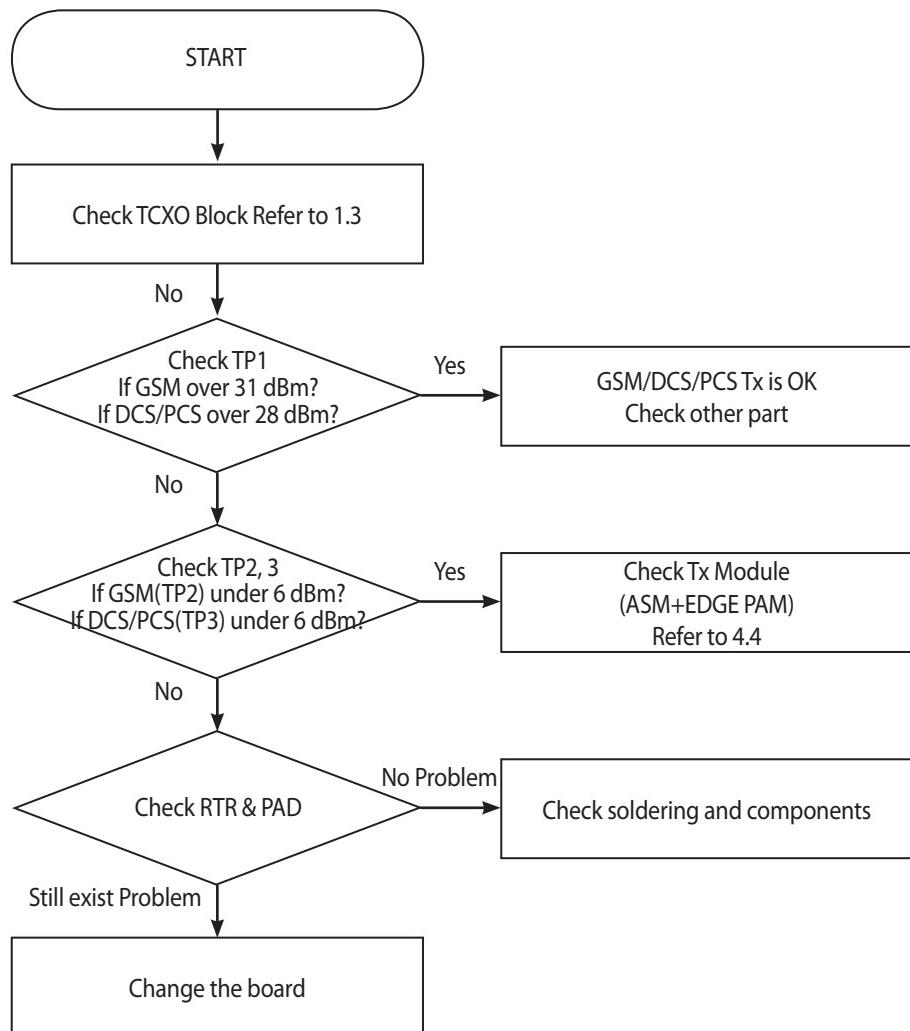


## 4. TROUBLE SHOOTING

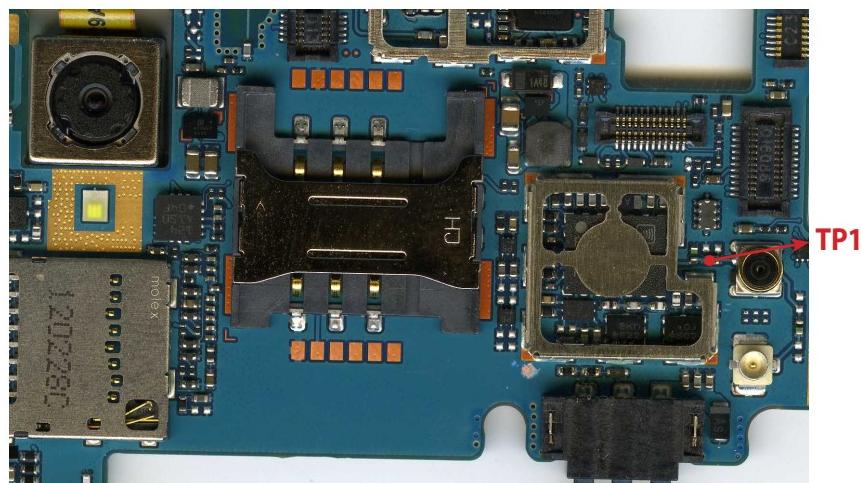
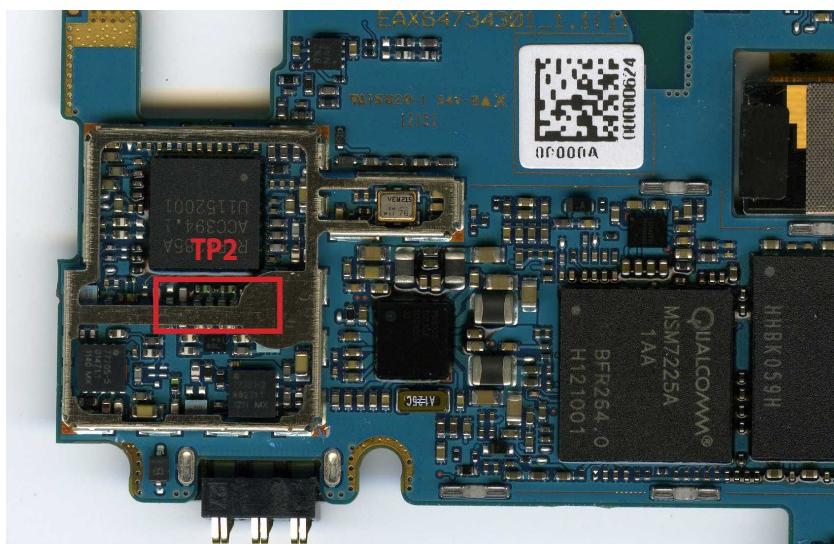


Schematic of GSM/DCS/PCS Tx Block

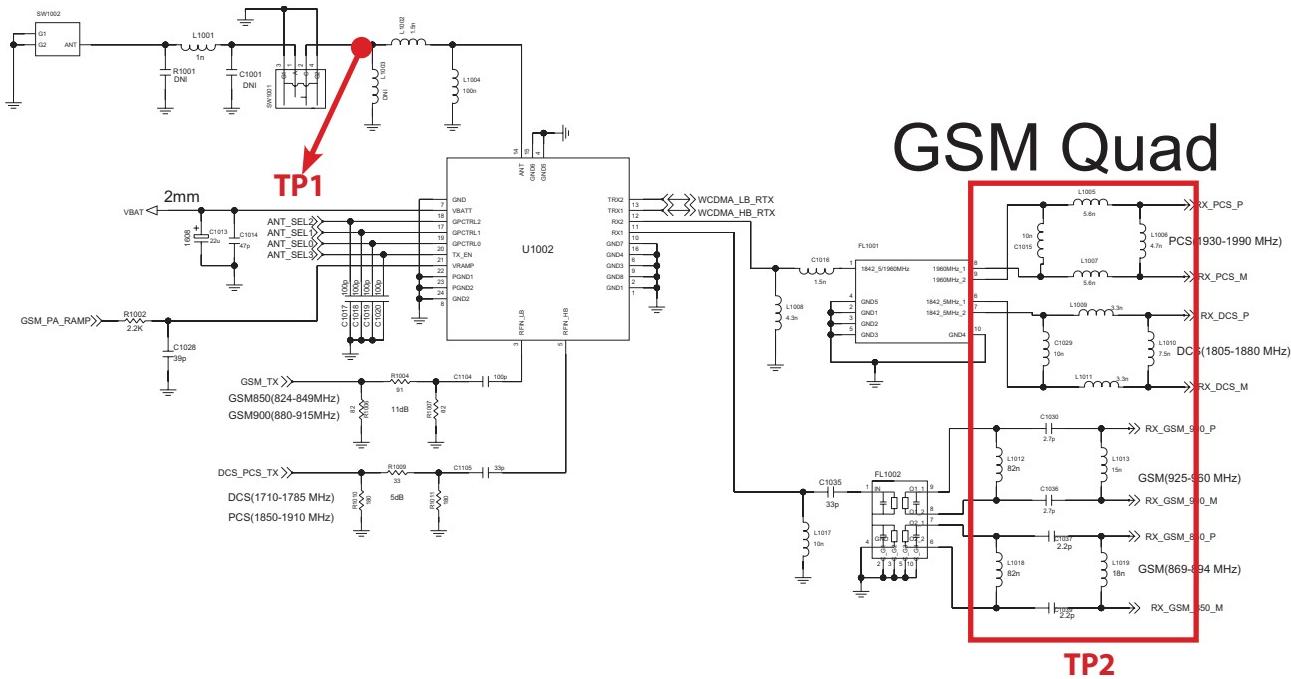
## 4. TROUBLE SHOOTING



### 4.6.4 Checking RF Rx Block



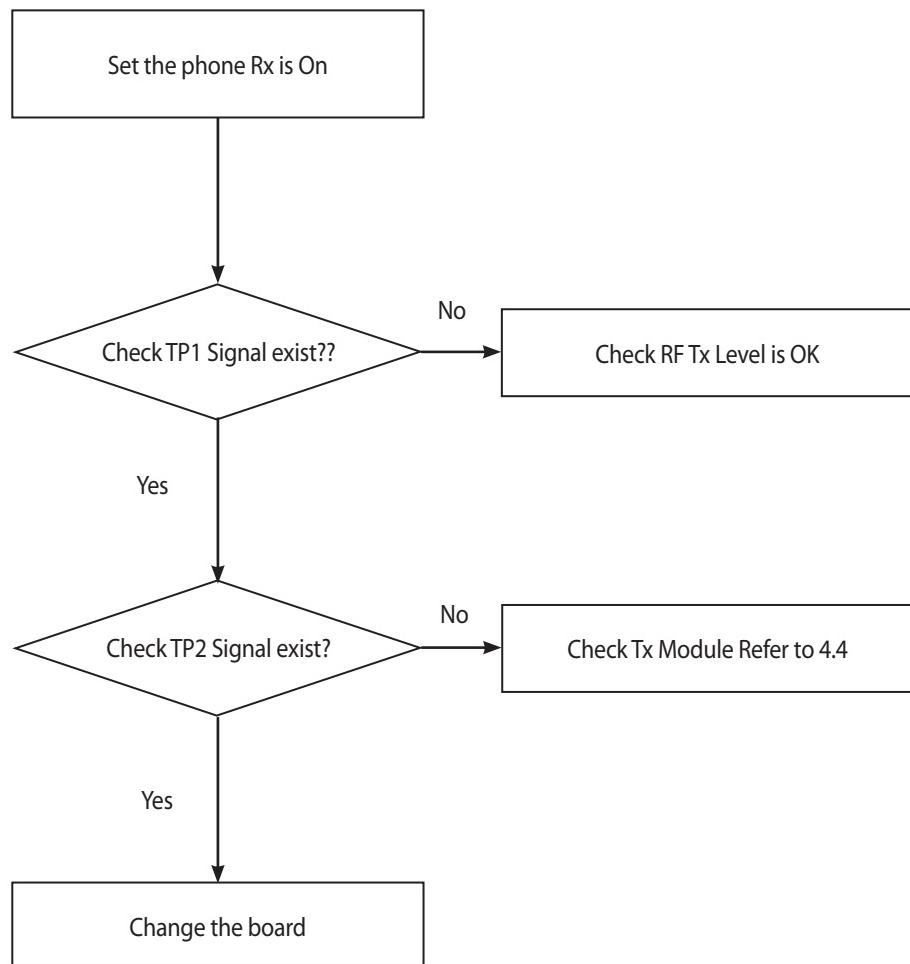
## **4. TROUBLE SHOOTING**



## Schematic of GSM/DCS/PCS Rx Block

## 4. TROUBLE SHOOTING

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### 4.7 GPS/WIFI/BT RF Component

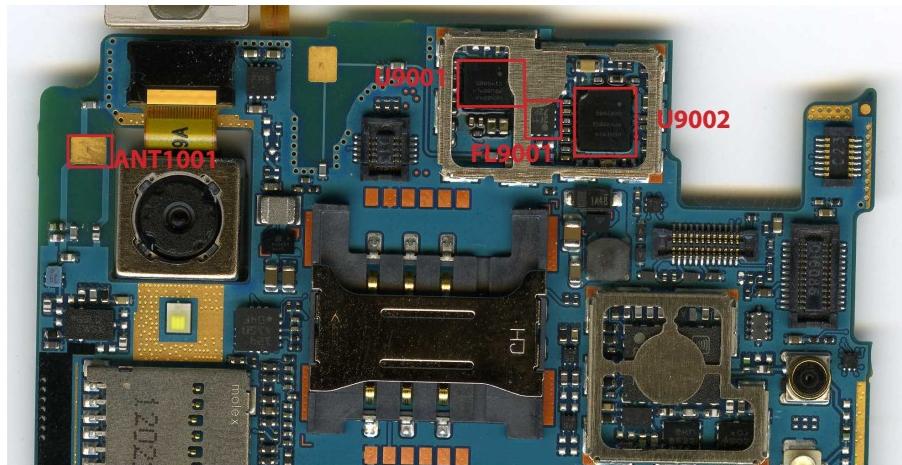


**RF Component(GPS)**

Reference	Description
ANT1001	ANTENNA PAD connected to Carrier type antenna
FL1006	GPS SAW FILTER
U1006	GPS LNA

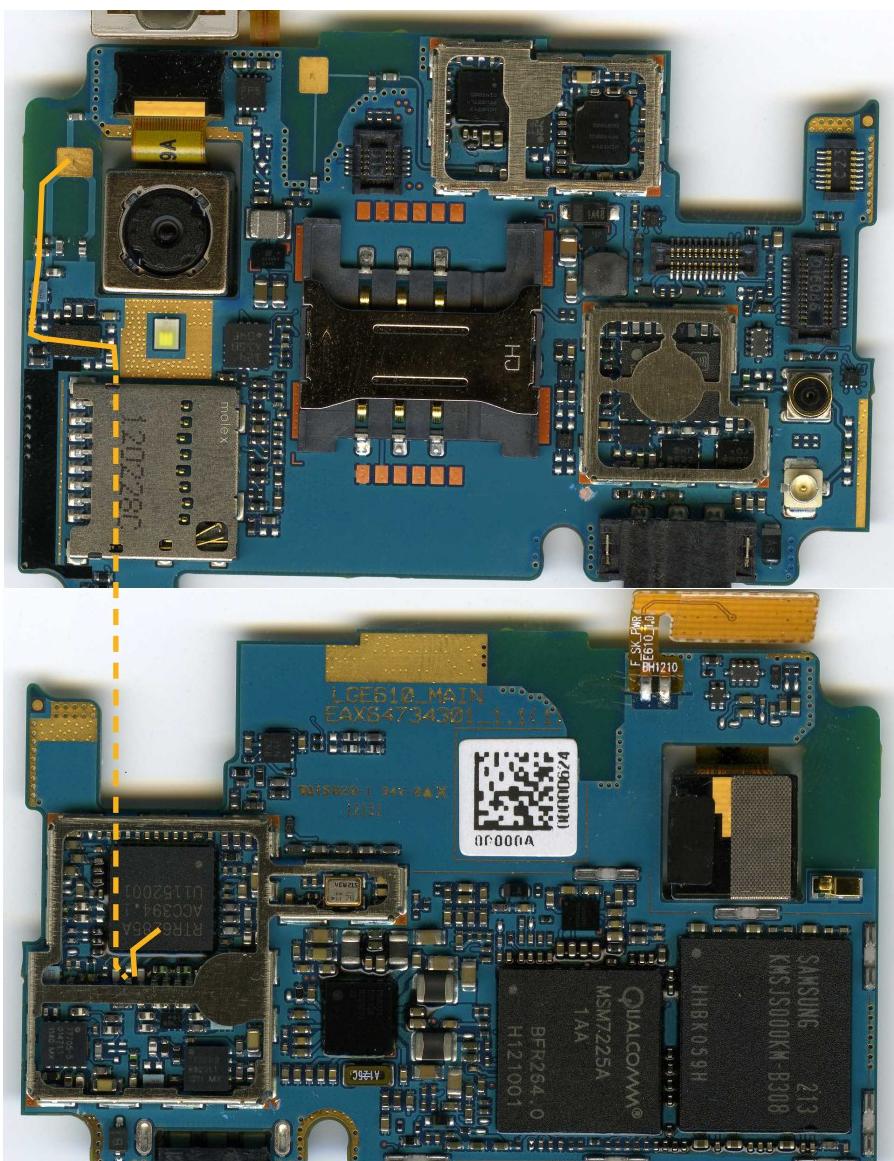
## 4. TROUBLE SHOOTING

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Reference	Description
ANT9001	ANTENNA PAD connected to Carrier type antenna
U9001	BT module
U9002	WiFi module
FL9001	FEM

### 4.8 GPS/WIFI/BT SIGNAL PATH

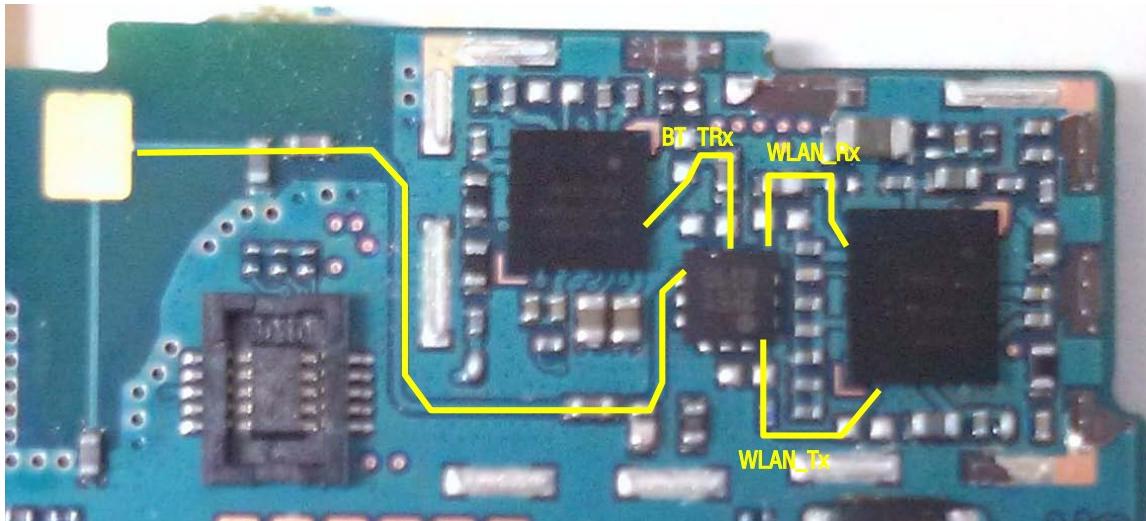


**GPS Signal PATH (main board bottom)**

**GPS Rx PATH**

## 4. TROUBLE SHOOTING

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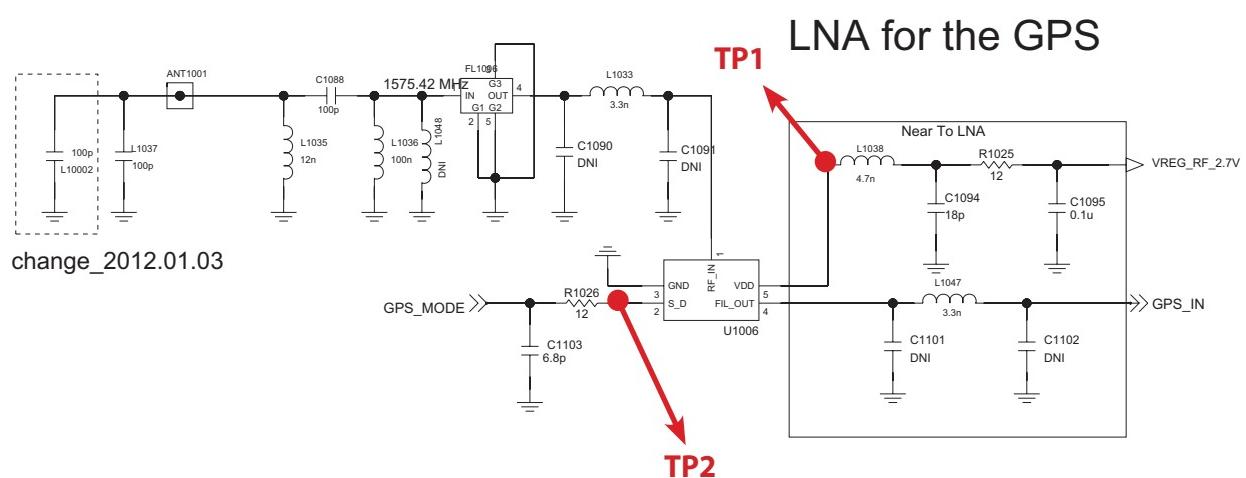
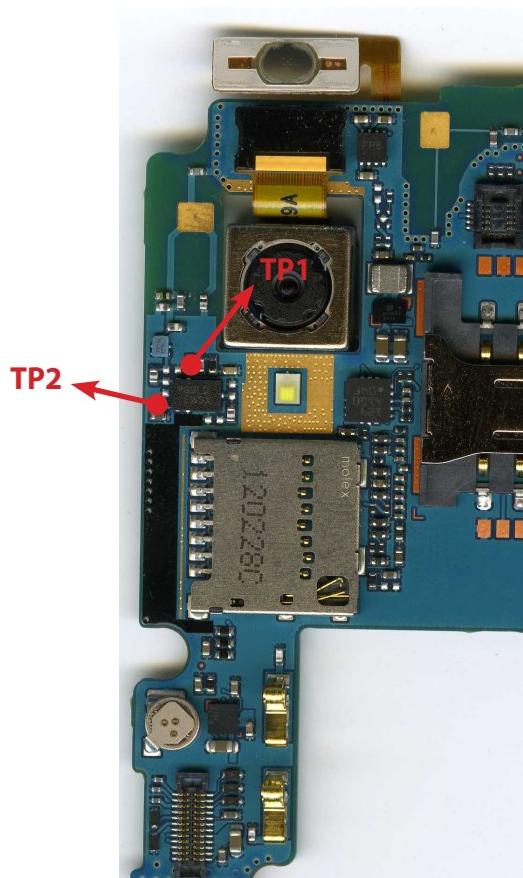


**WiFi / BT Signal PATH**

**WiFi / BT Tx and Rx PATH**

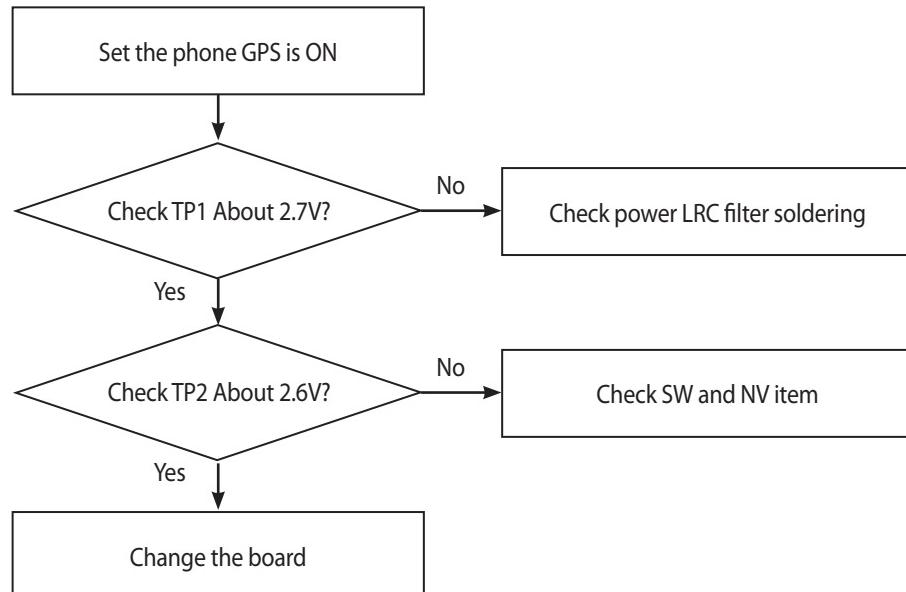
### 4.9 GPS/WIFI/BT Trouble shooting

#### 4.9.1 A-GPS Block

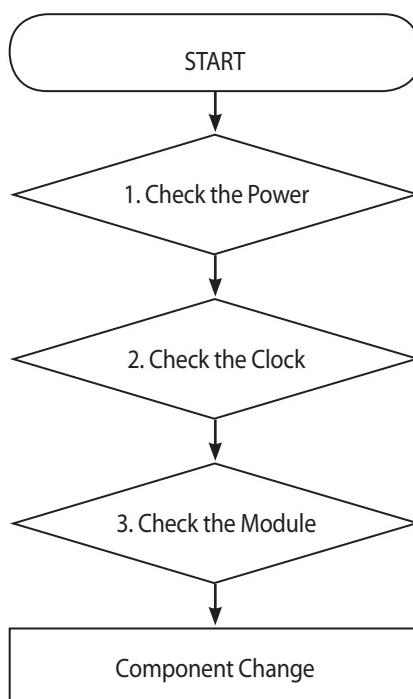
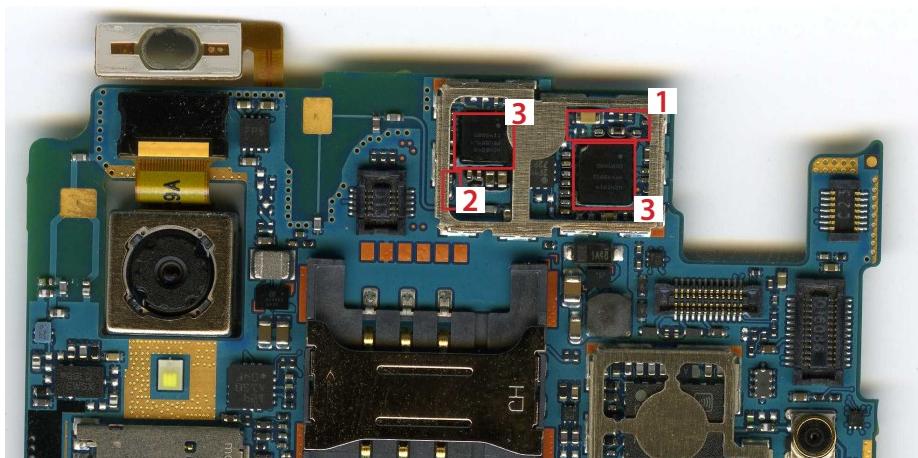


## 4. TROUBLE SHOOTING

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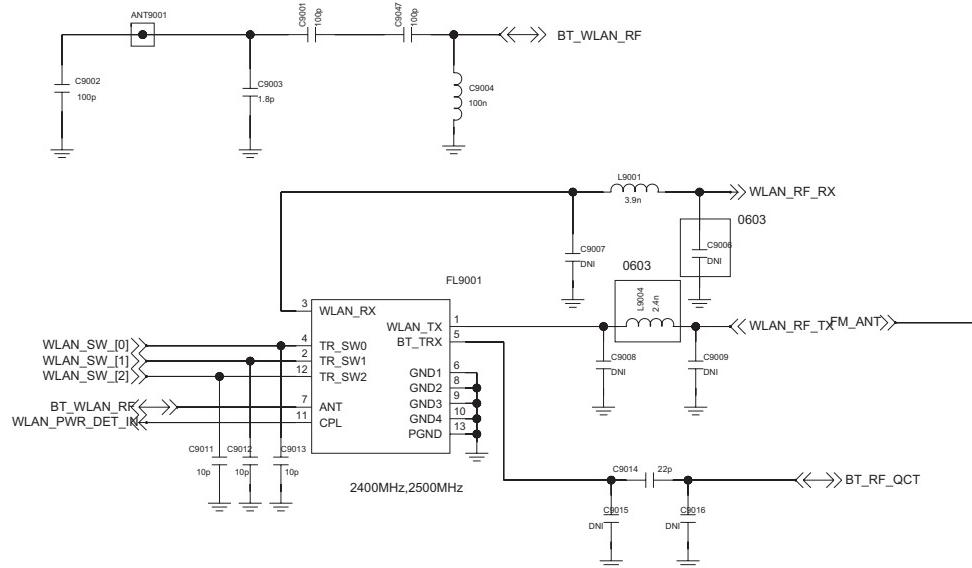


### 4.9.2 WLAN/BT/FM Block



## 4. TROUBLE SHOOTING

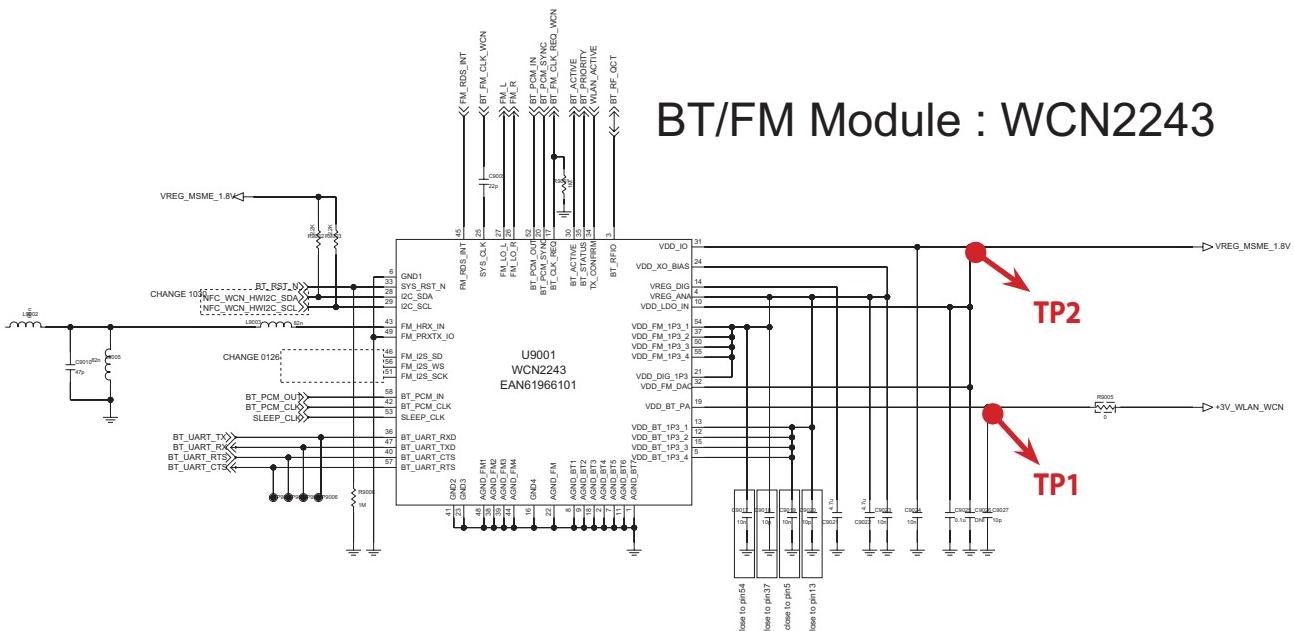
# BT/WI-FI FRONT-END



## ANTENNA SWITCH MODULE LOGIC

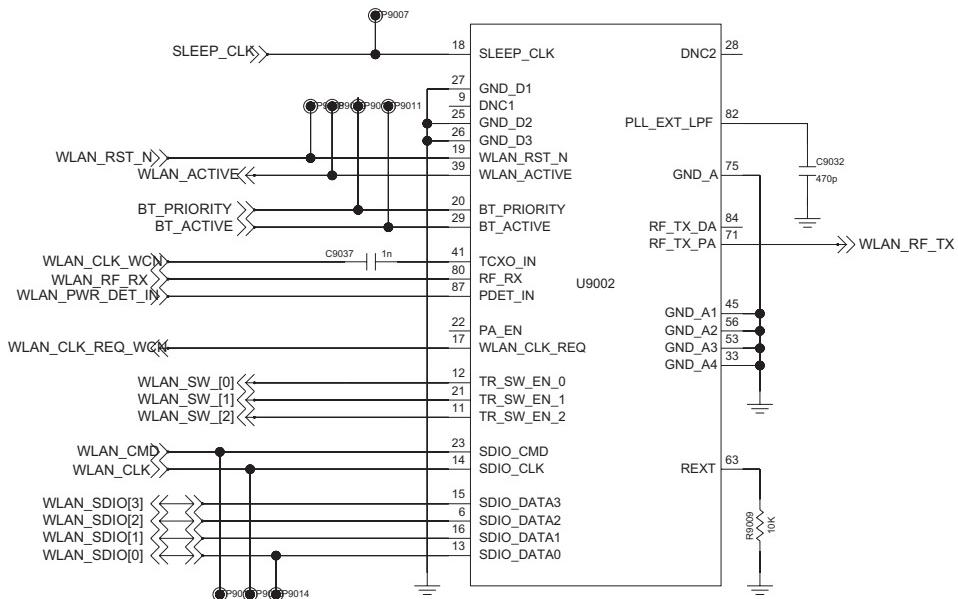
	SW0	SW1	SW2
WiFi RX-ANT	HIGH	LOW	LOW
WiFi TX-ANT	LOW	HIGH	LOW
BT-ANT	LOW	LOW	HIGH

## BT/FM Module : WCN2243

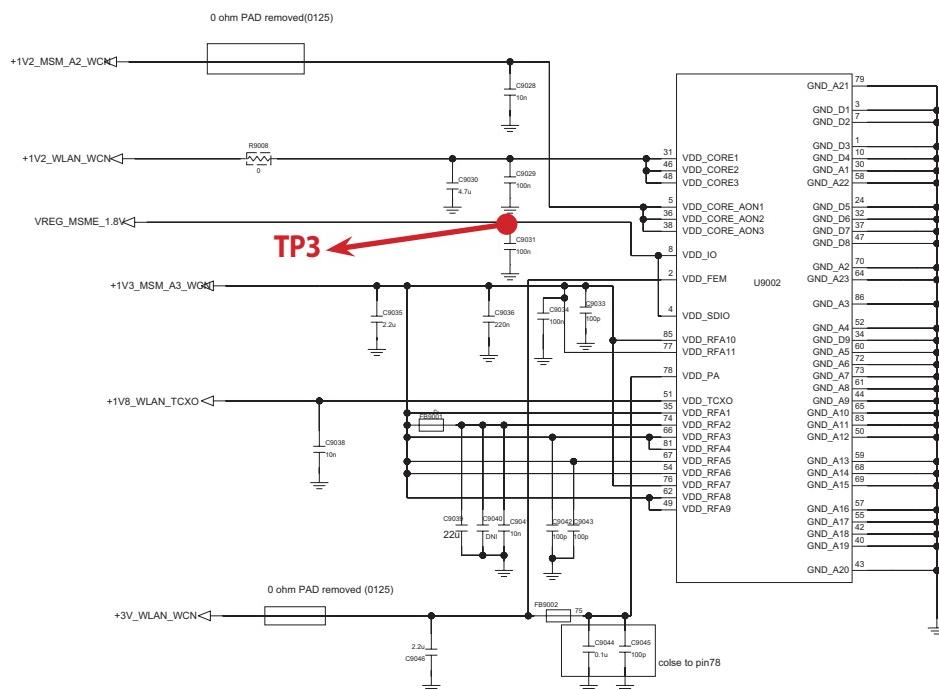


## 4. TROUBLE SHOOTING

# Wi-Fi : WCN1314

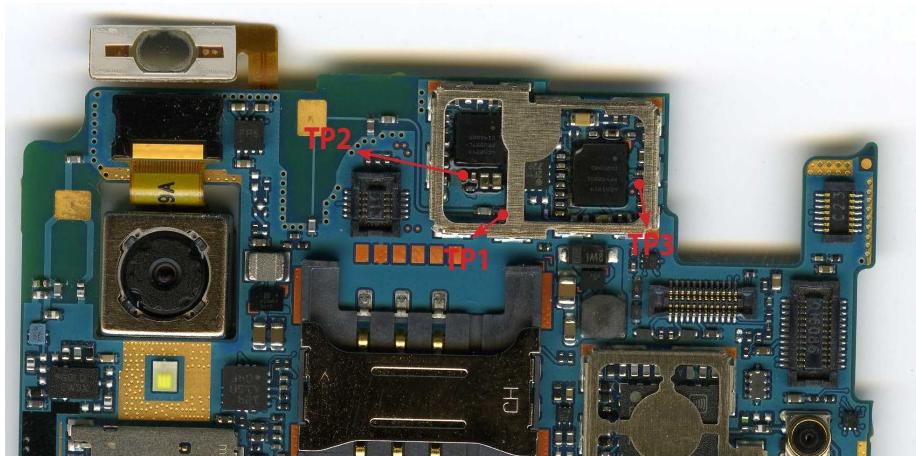


# WiFi : WCN 1314



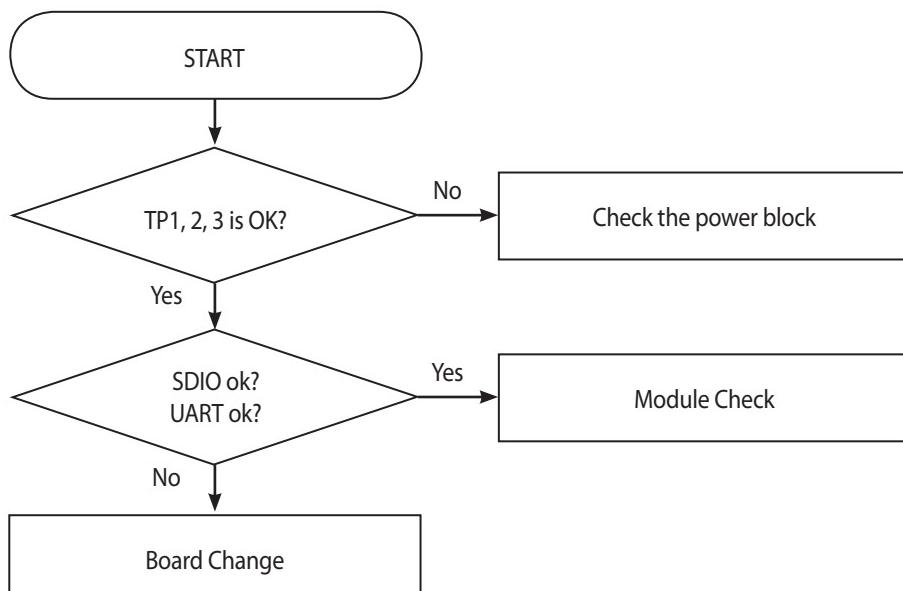
[Figure] Schematic of WiFi /BT module

## 4. TROUBLE SHOOTING



### Test point Description

Test point	Net name	Description
TP1	'+3V_WLAN_WCN	Power for BT/WiFi BB core and WiFi power Amp. (V Batt)
TP2	VREG_MSME_1.8V	Power for BT power Amp. (1.8V)
TP3	VREG_MSME_1.8V	Power for host interface (1.8V)

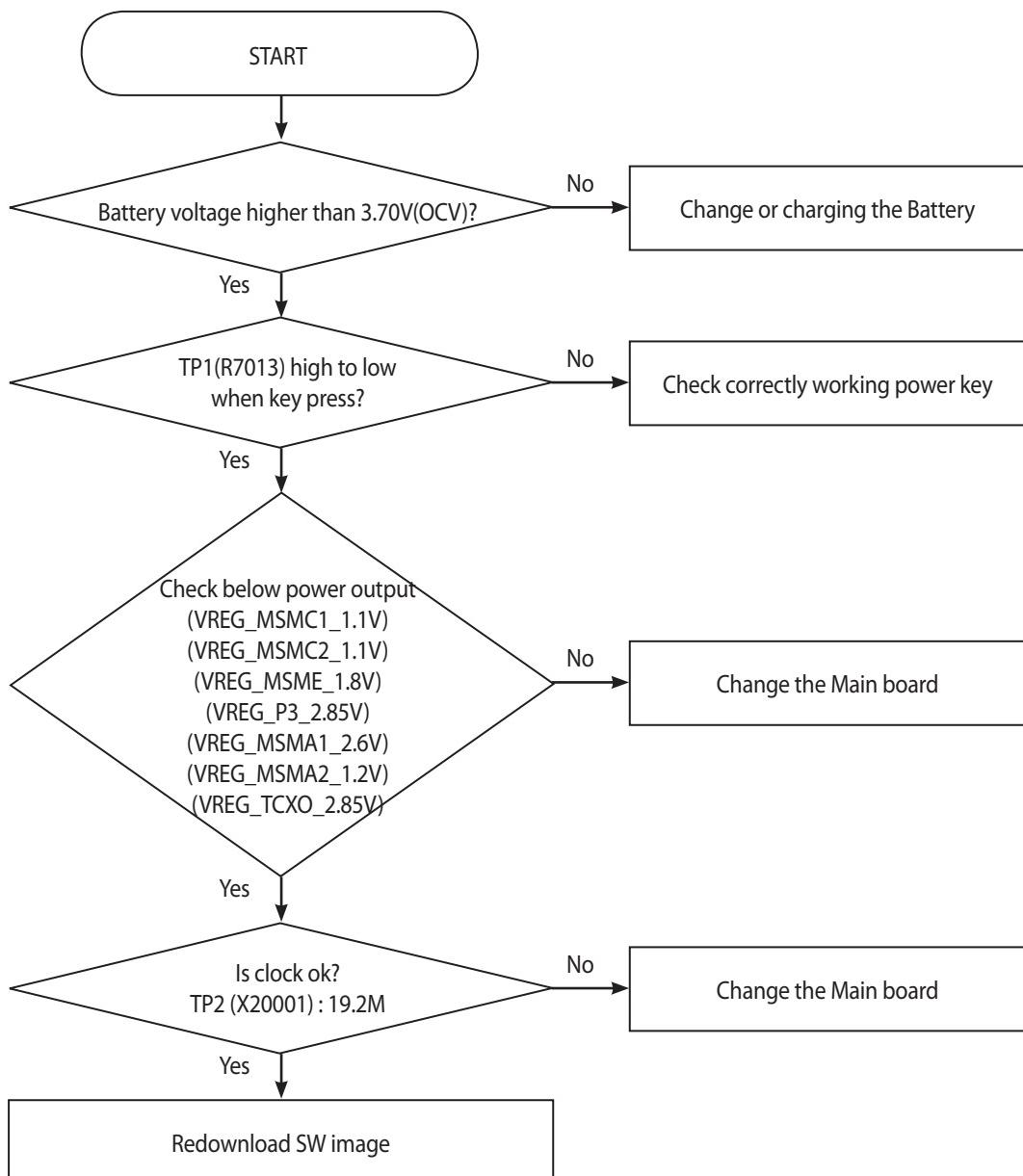


### 4.10 Power ON Trouble Shooting

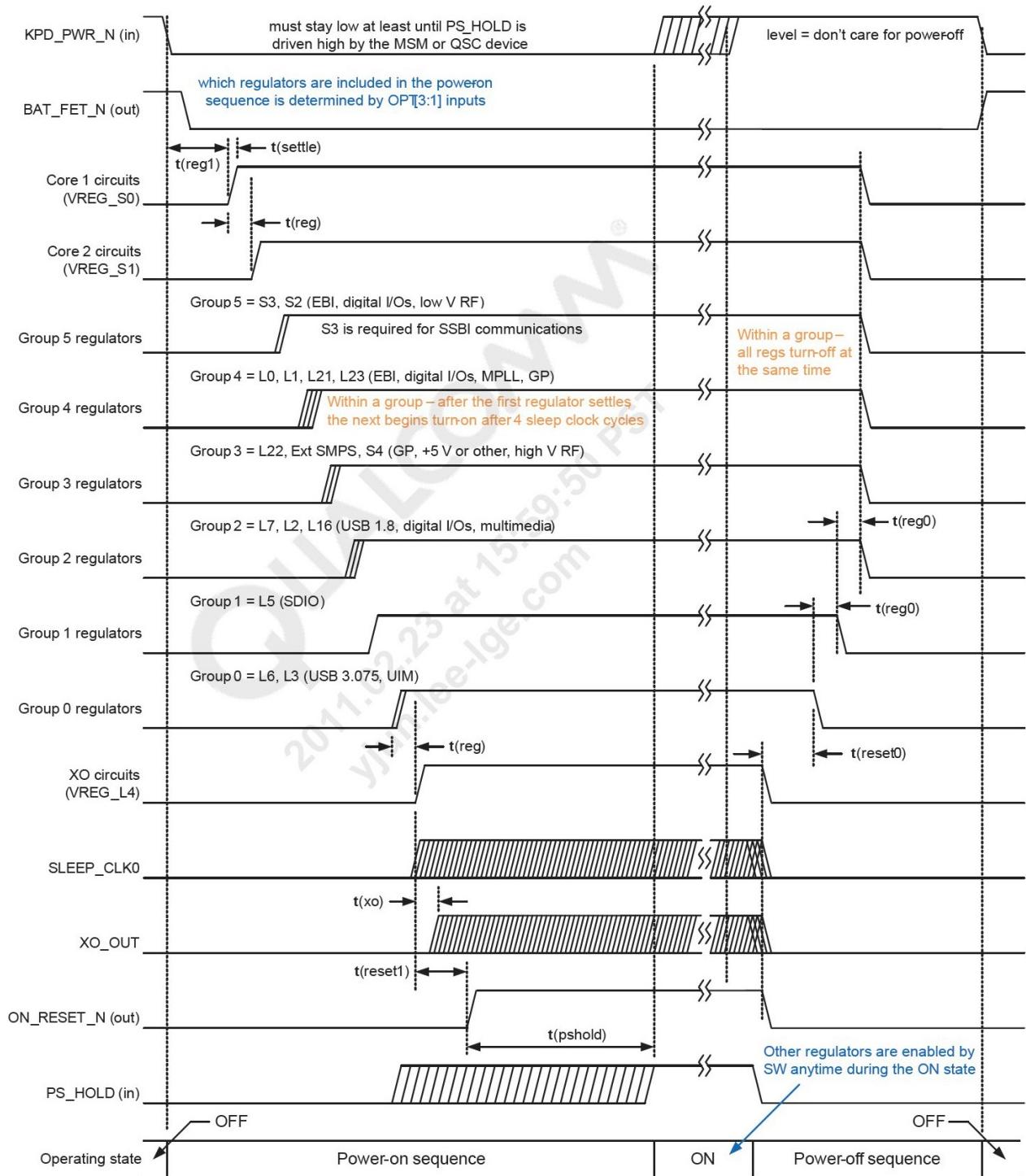
Power On sequence of E615 is :

Power key press -> KPD\_PWR\_N go to low -> PM8029 Power Up -> VREG\_MSMC1\_1.1V (L4001), VREG\_MSMC2\_1.1V (L4002), VREG\_MSME\_1.8V (L4003), VREG\_P3\_2.85V (C4053), VREG\_MSMA1\_2.6V (C4048), VREG\_MSMA2\_1.2V (C4044) VREG\_TCXO\_2.85V (C4049)

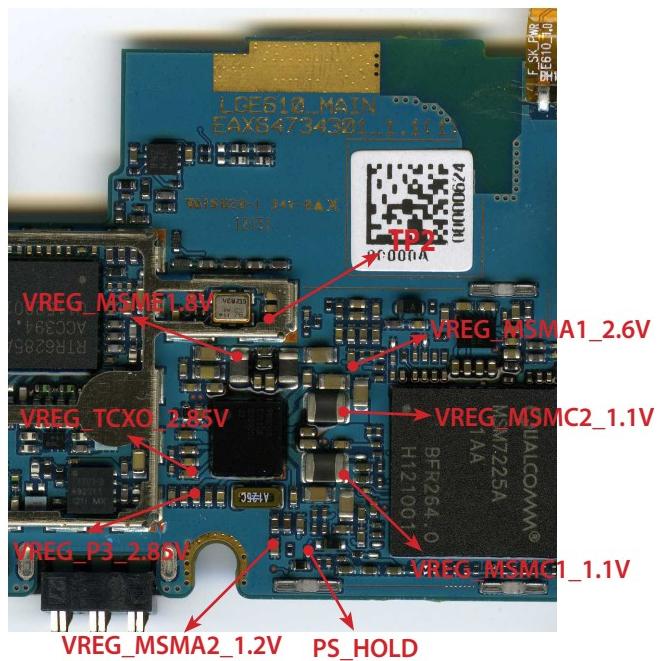
power ON -> Phone booting and PS\_HOLD(R4037) go to High



## 4. TROUBLE SHOOTING

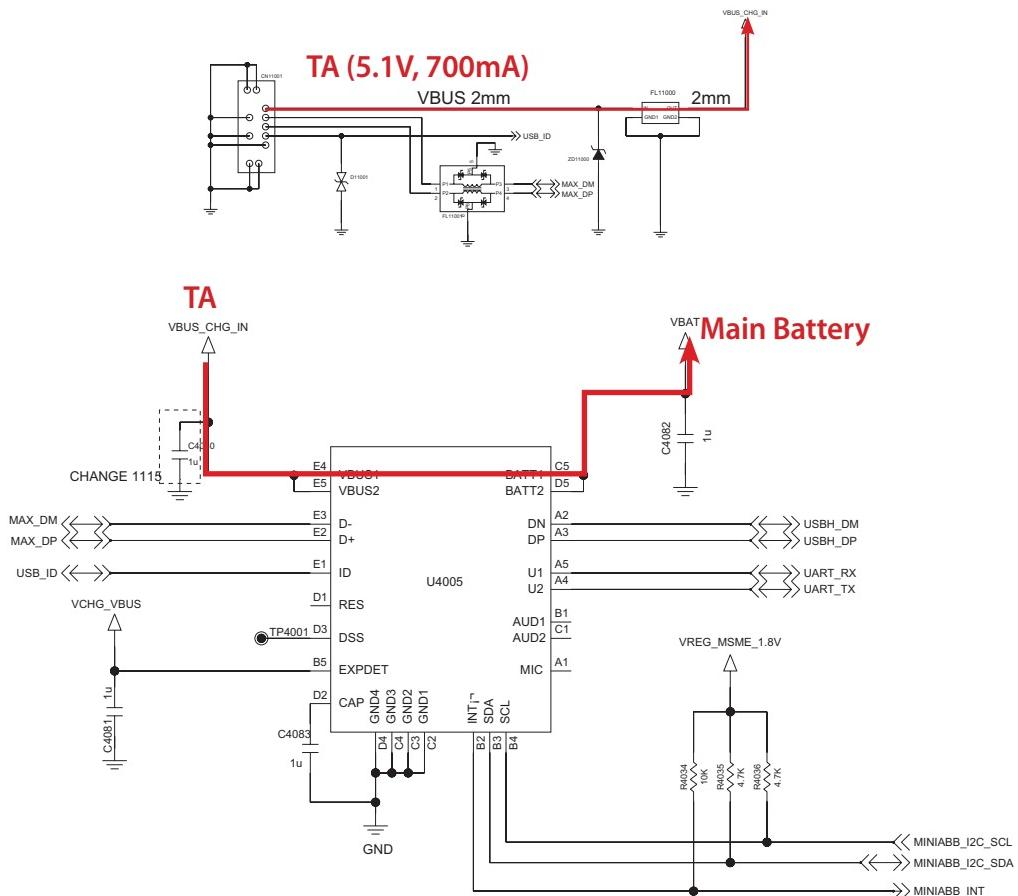


## 4. TROUBLE SHOOTING



### 4.11 Charging Trouble Shooting

## u-USB Connector



#### 1. Charging Procedure

- Connect TA or u-USB Cable
- Control the charging current by LP8727-B IC
- Charging current flows into the battery

#### 2. Check Point

- Connection of TA or USB Cable
- Charging IC (LP8727-B)
- Battery

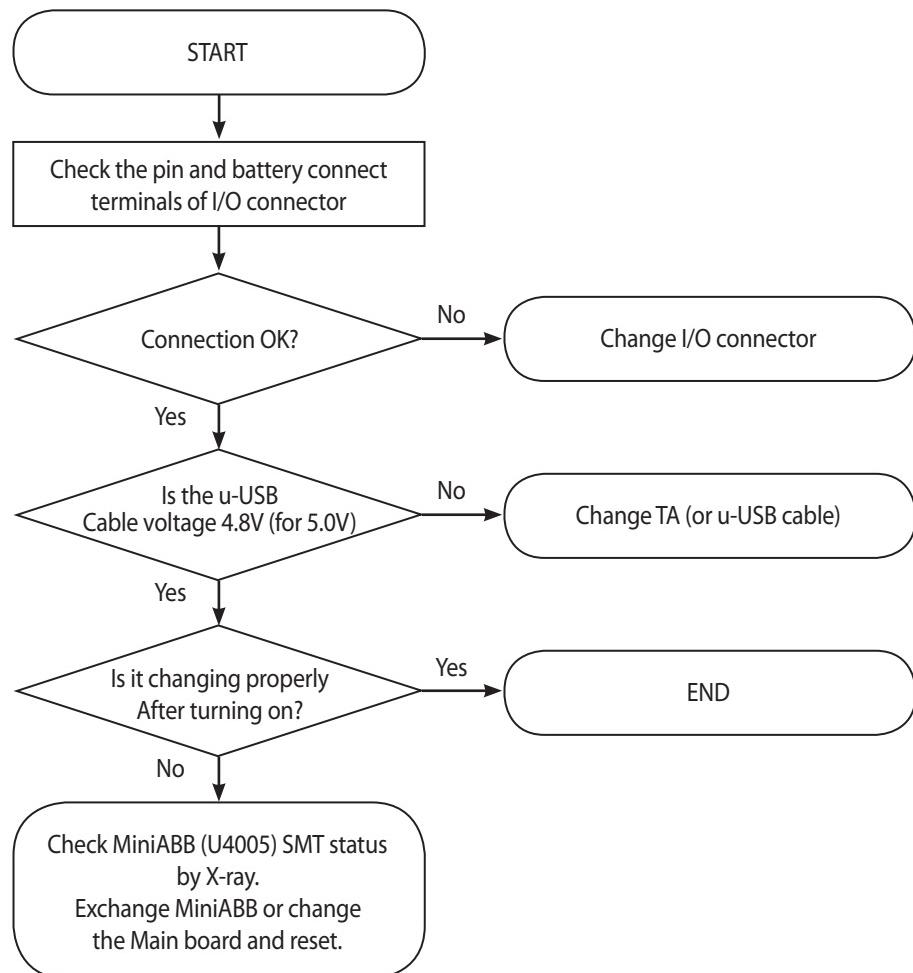
#### 3. Troubleshooting Setup

- Connect TA and battery to the phone

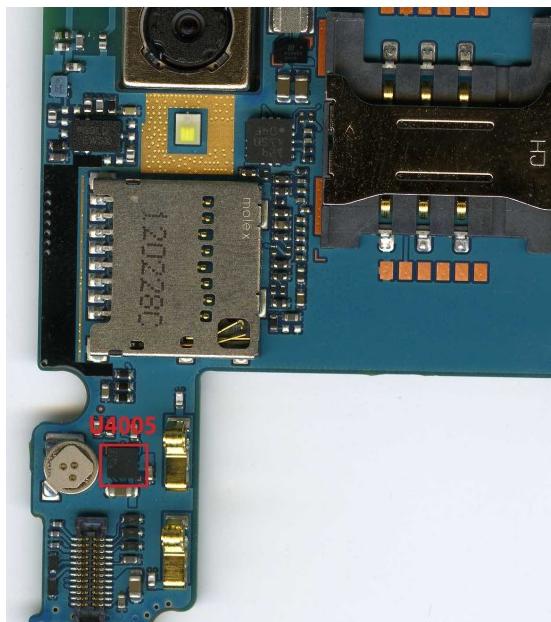
#### 4. Troubleshooting Procedure

- Check the charger (TA or USB Cable)
- Check the OVP Circuit
- Check the Charging IC
- Check the battery

## 4. TROUBLE SHOOTING

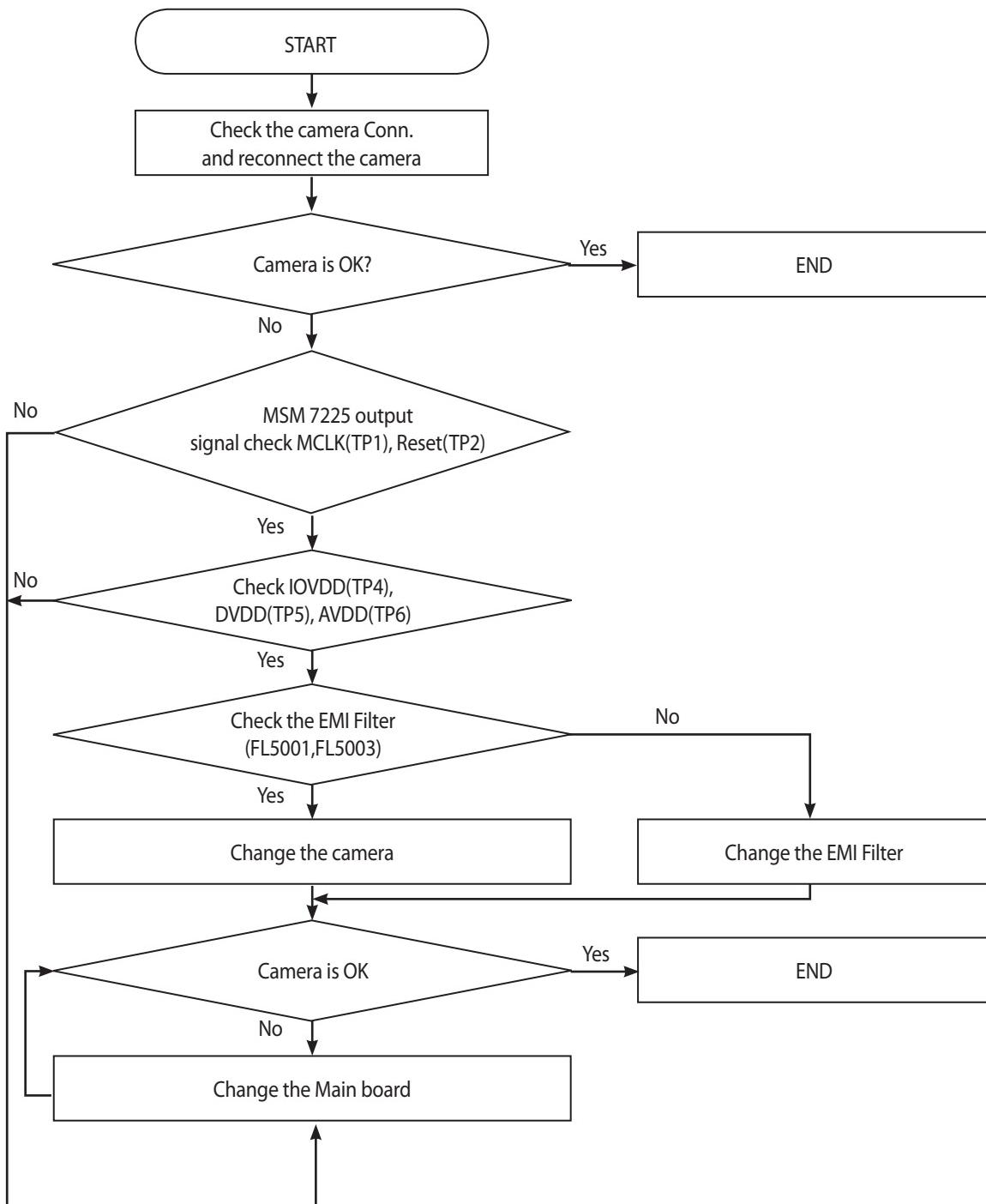


Charger Troubleshoot Flow

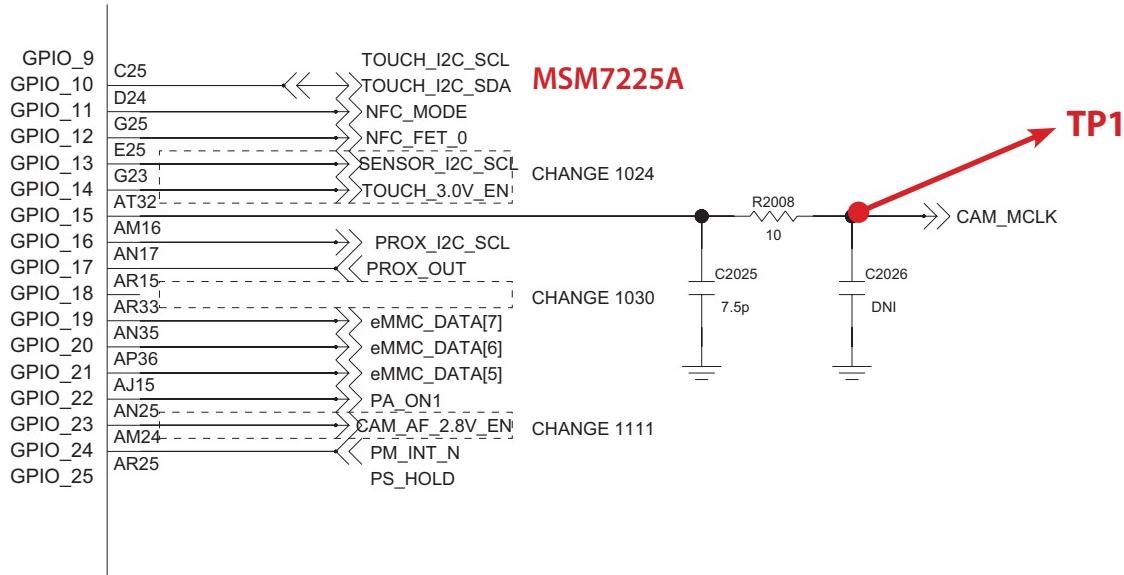


### 4. 12 5M AF Camera Trouble Shooting

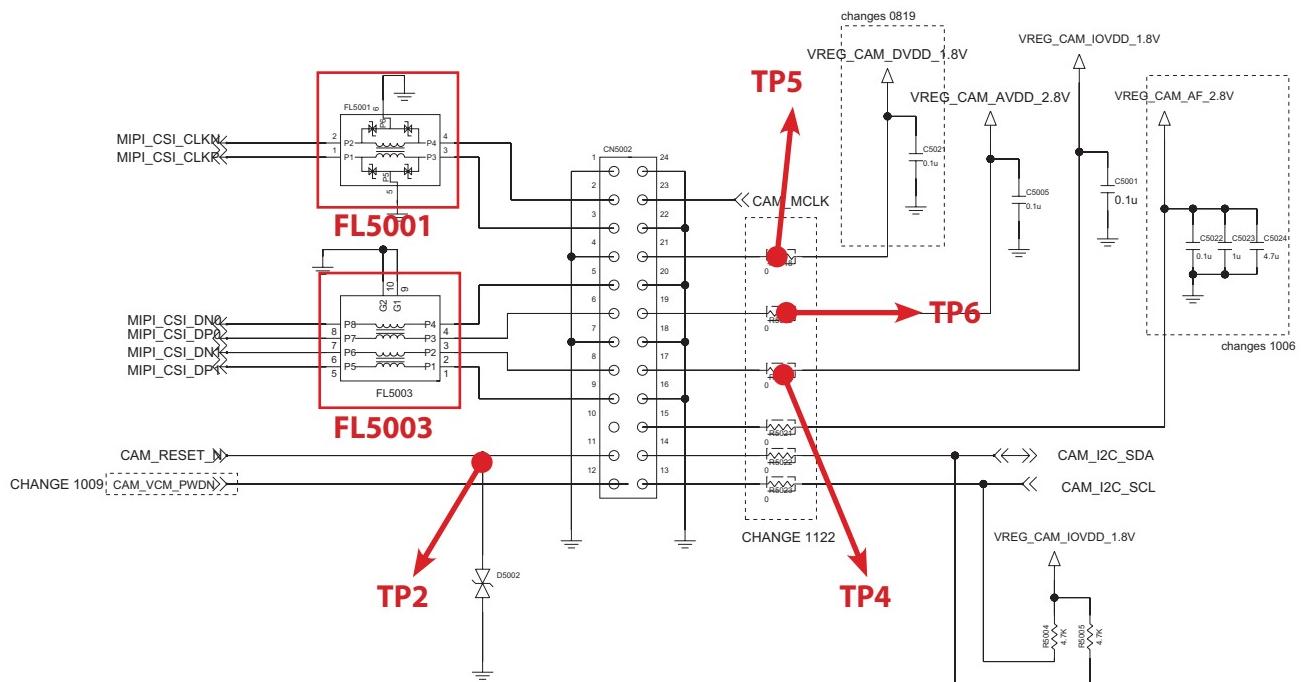
5M camera control signals are generated by MSM7225A.



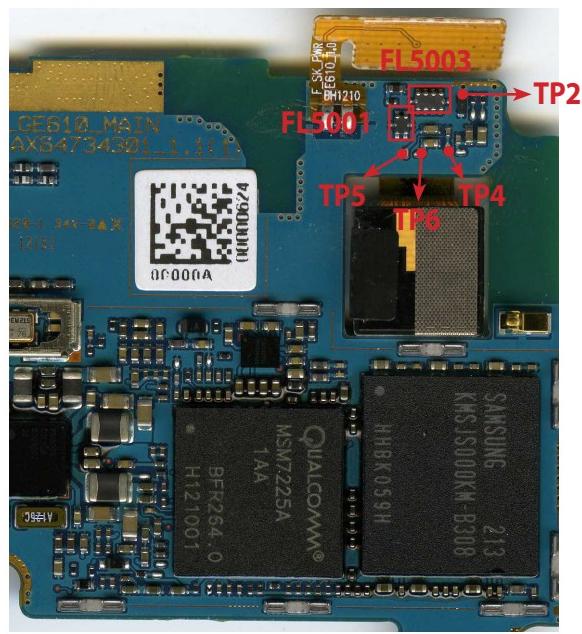
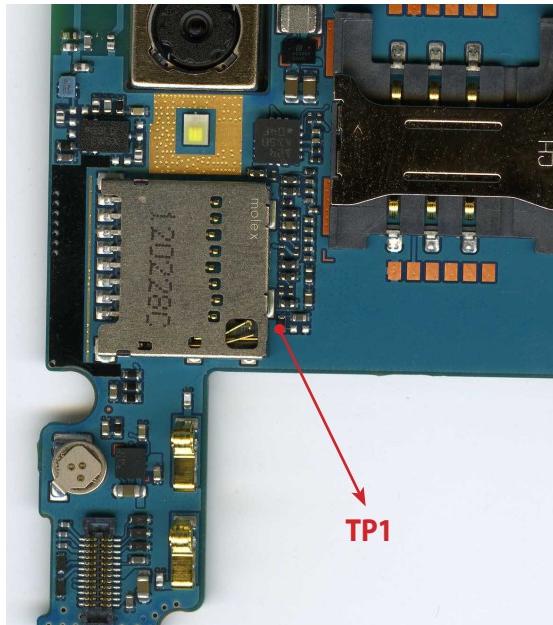
## 4. TROUBLE SHOOTING



# CAMERA (5M MIPI)



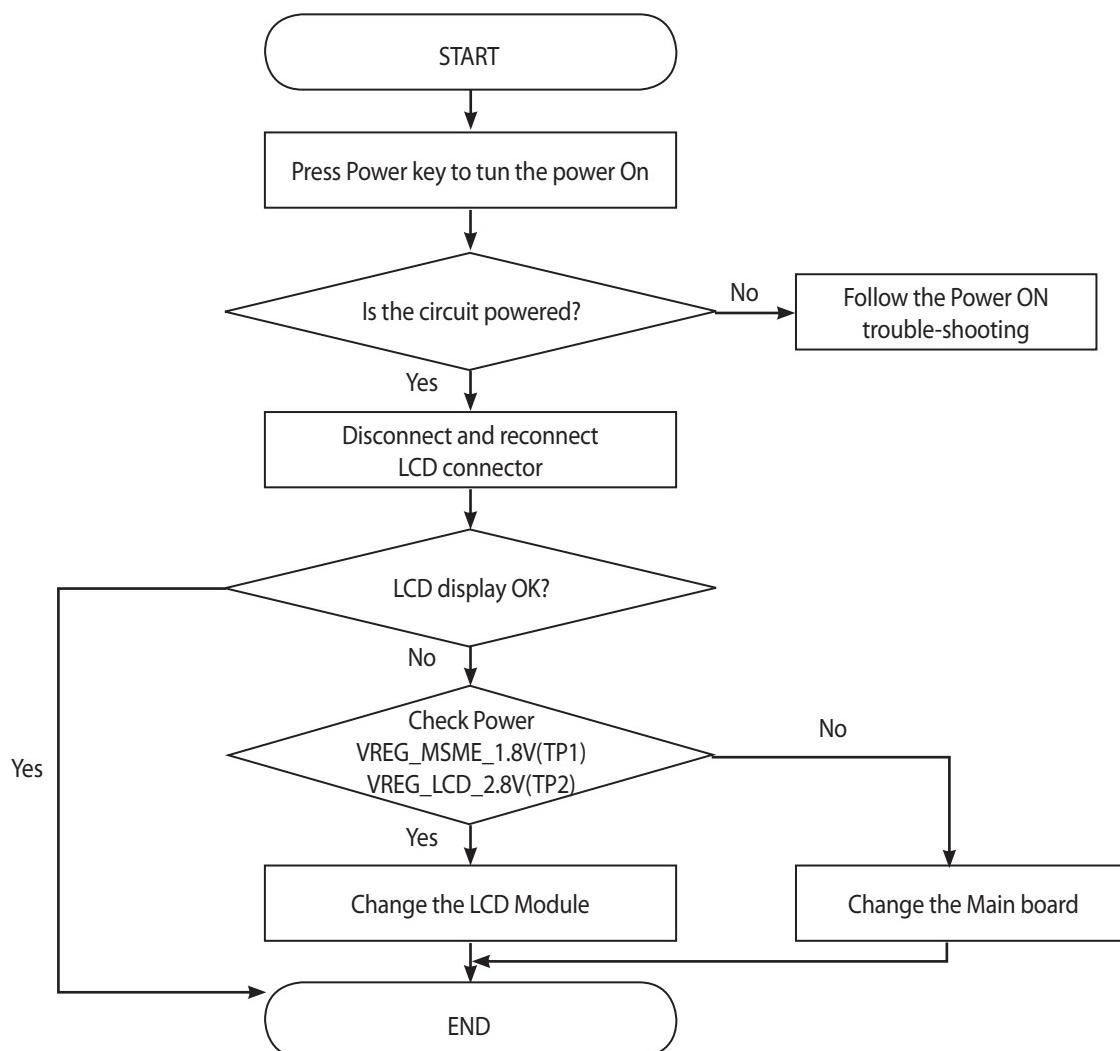
## 4. TROUBLE SHOOTING



### 4. 13 Main LCD trouble

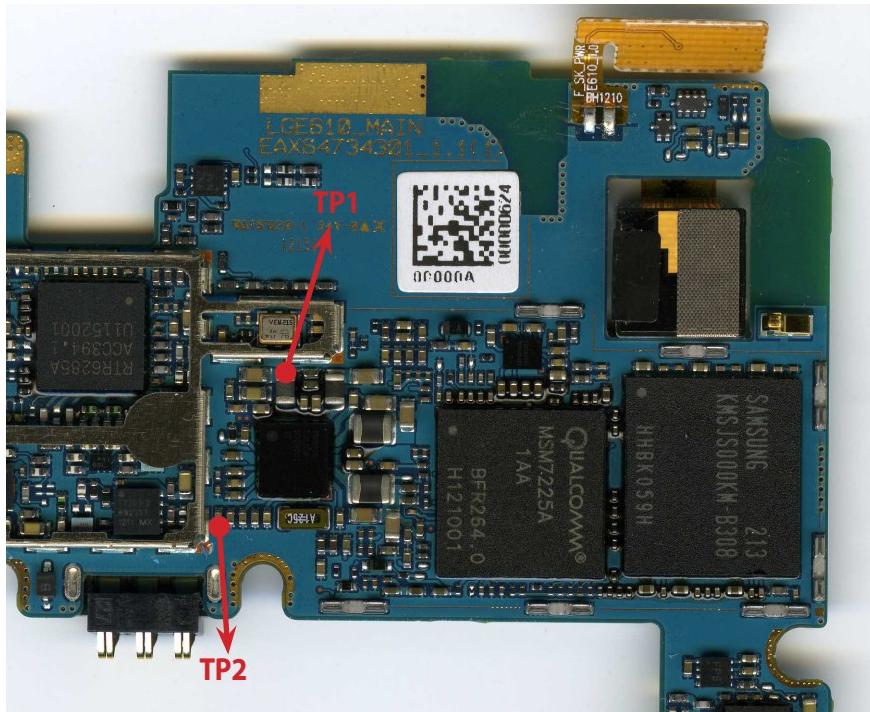
Main LCD control signals are generated by MSM7225A. Those signal's path are :

MSM7225A -> LCD Module



## 4. TROUBLE SHOOTING

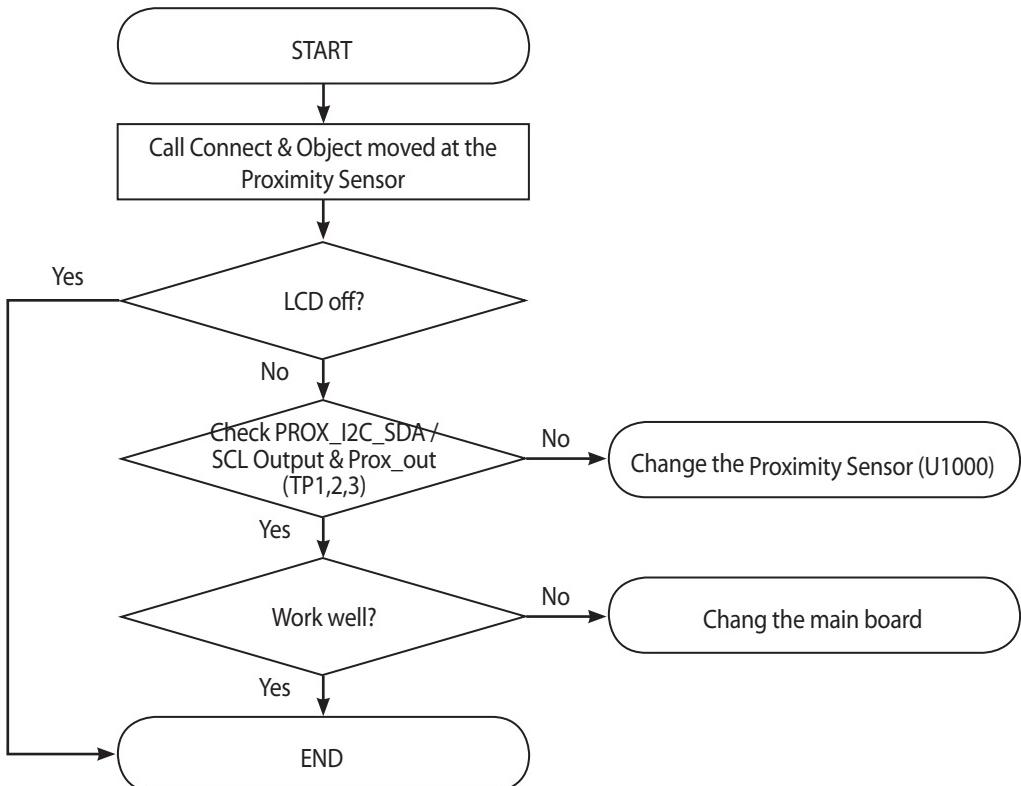
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### 4.14 Proximity Sensor on/off Trouble Shooting

Proximity Sensor is worked as below :

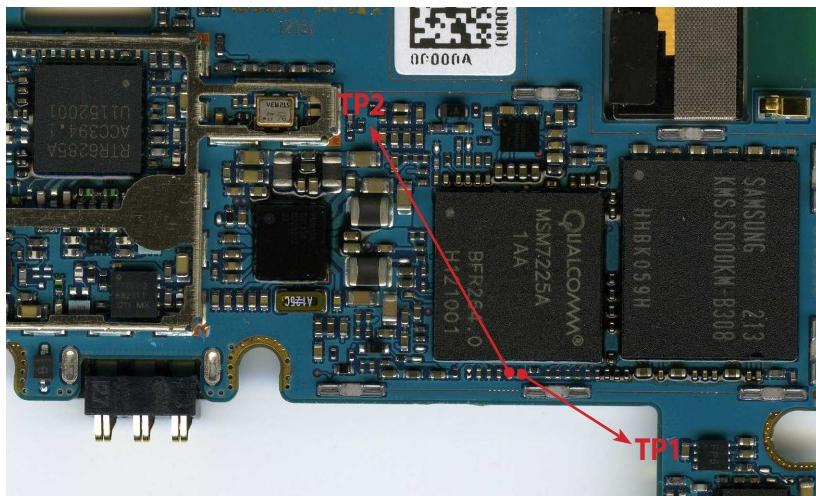
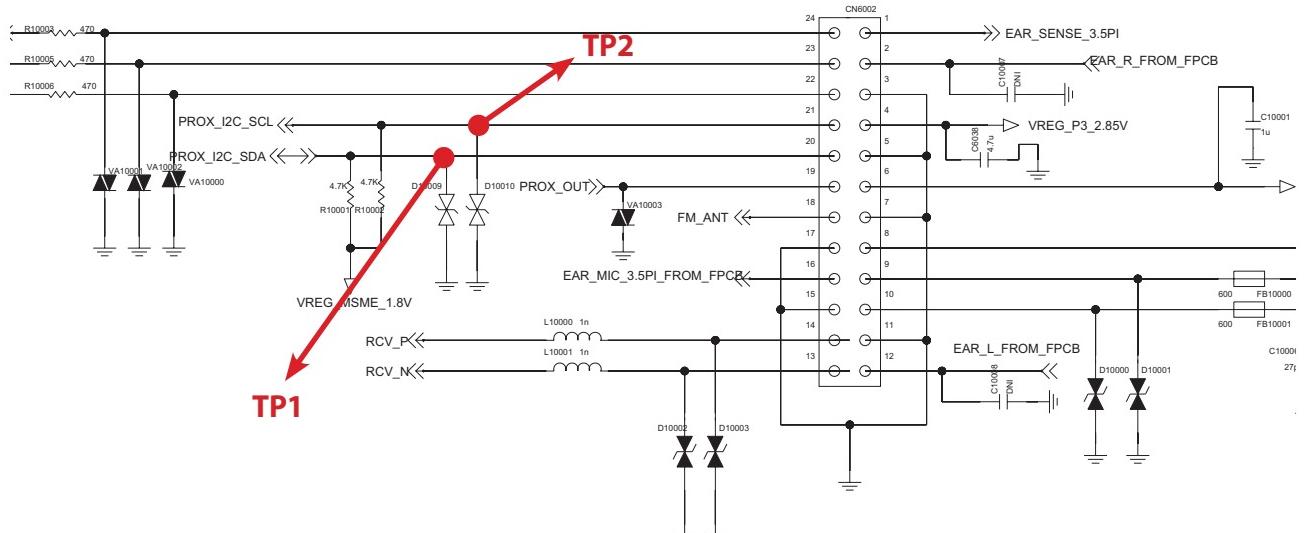
Call connected -> Object moved at the sensor -> Control the screen's on/off operation automatically



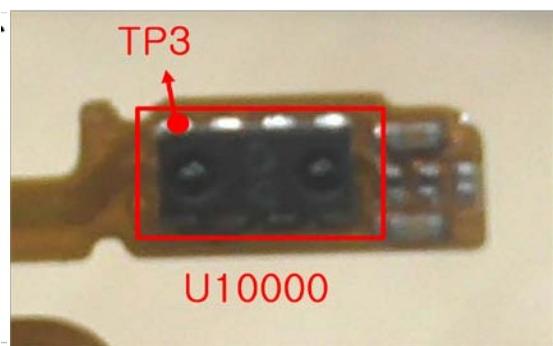
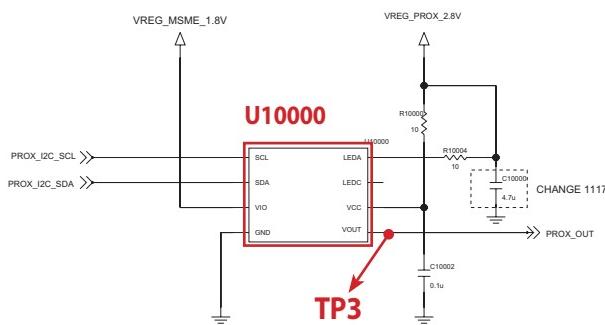
#### Measurement

VREG\_MSME\_1.8V  
VREG\_P3\_2.85V  
PROX\_OUT  
PROX\_I2C\_SCL / SDA

# FPCB\_EARJACK Connector



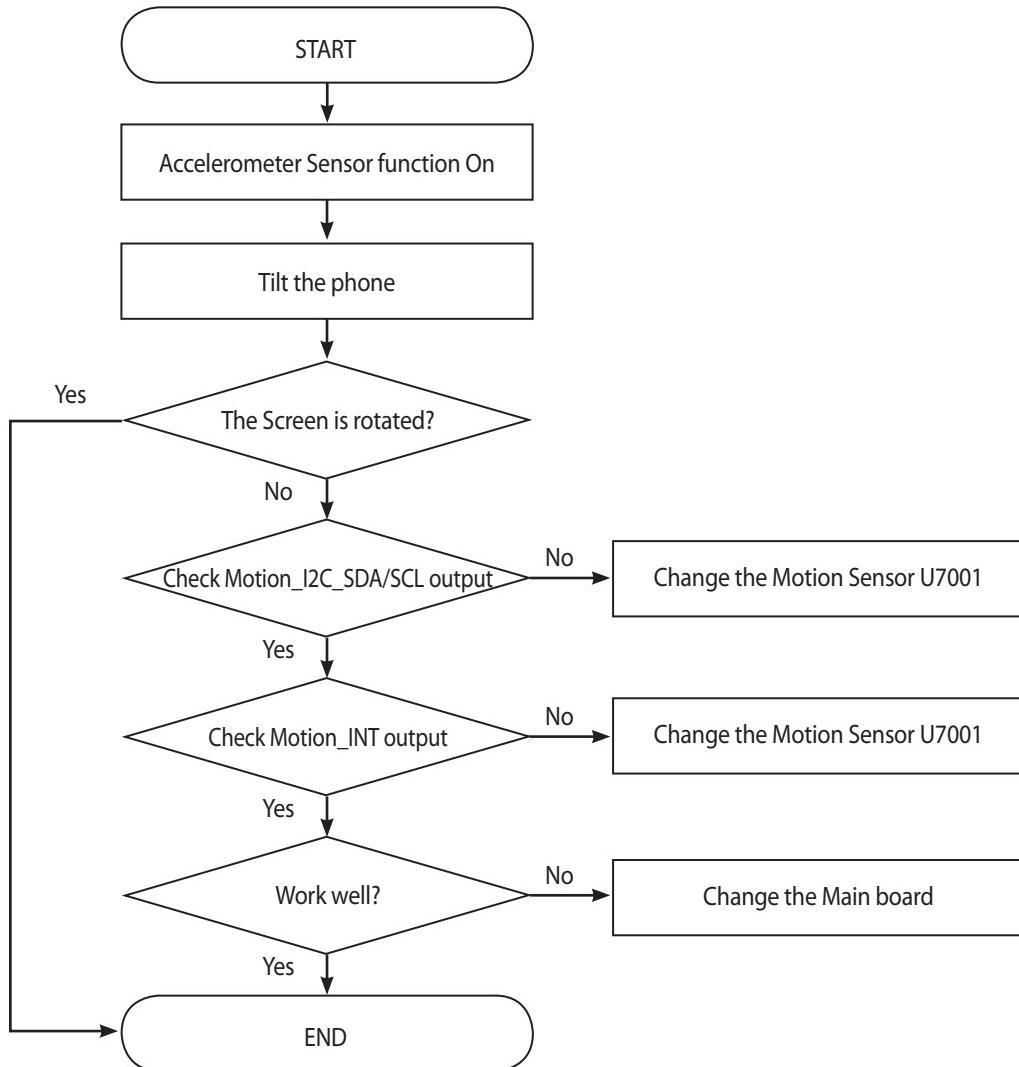
## Proximity Sensor



### 4.15 Motion Sensor on/off Trouble Shooting

Motion Sensor is worked as below :

Accelerometer Sensor function On -> Tilt the phone (90°) -> The screen is had rotated automatic



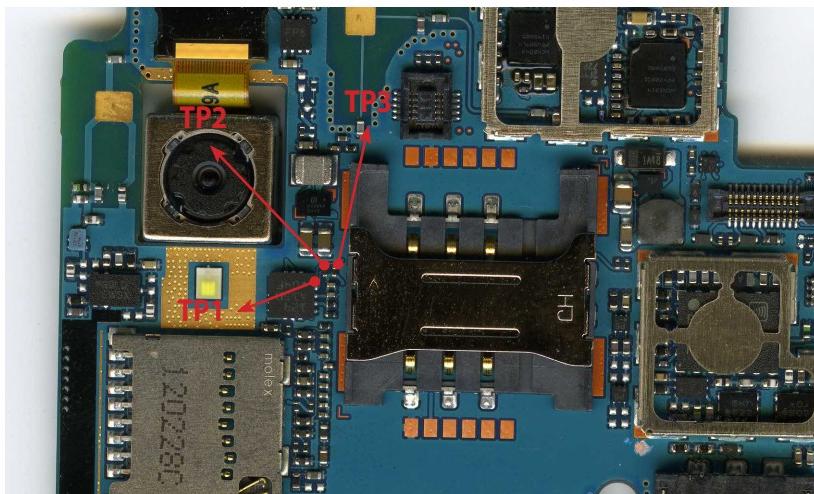
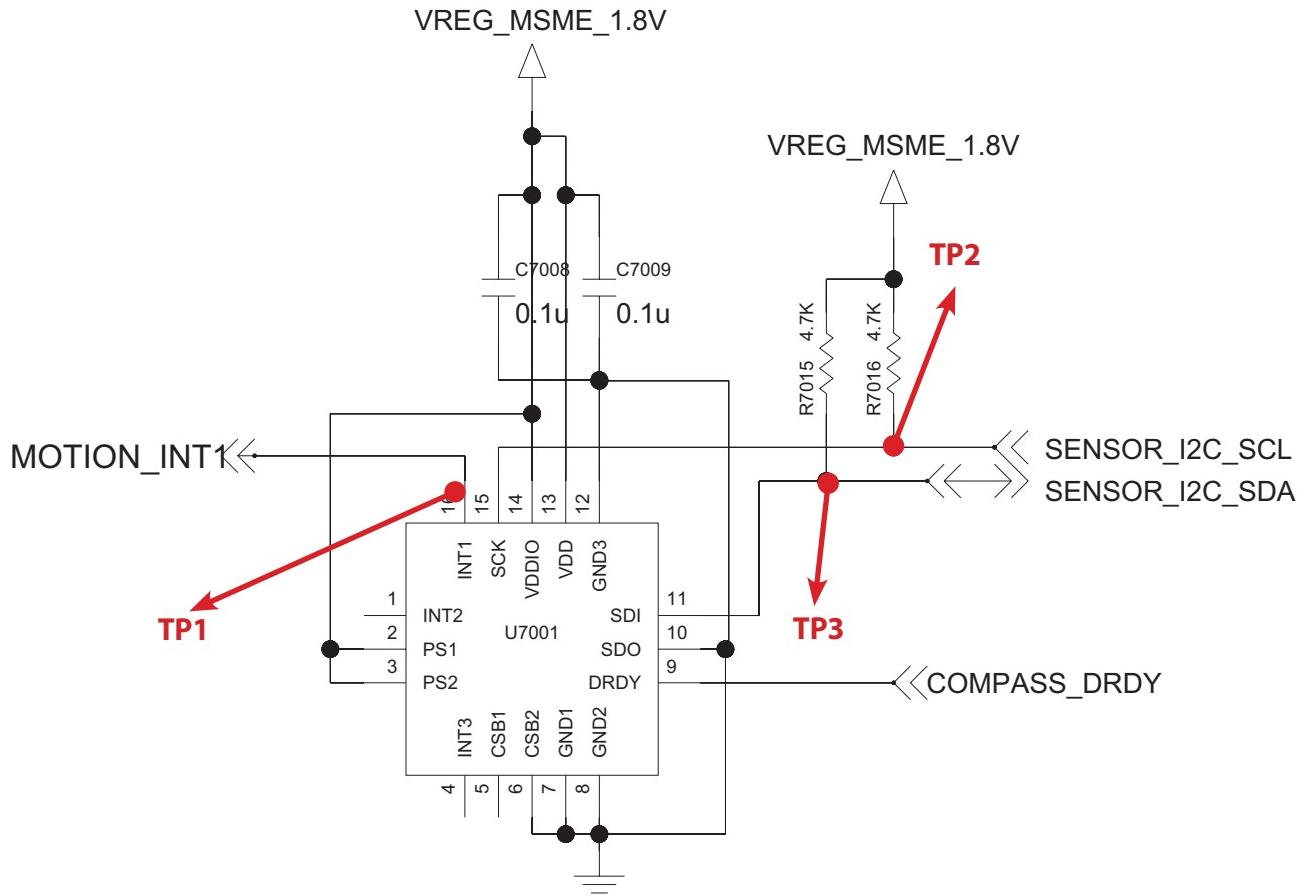
#### Measurement

VREG\_MSME\_1.8V

MOTION\_INT1

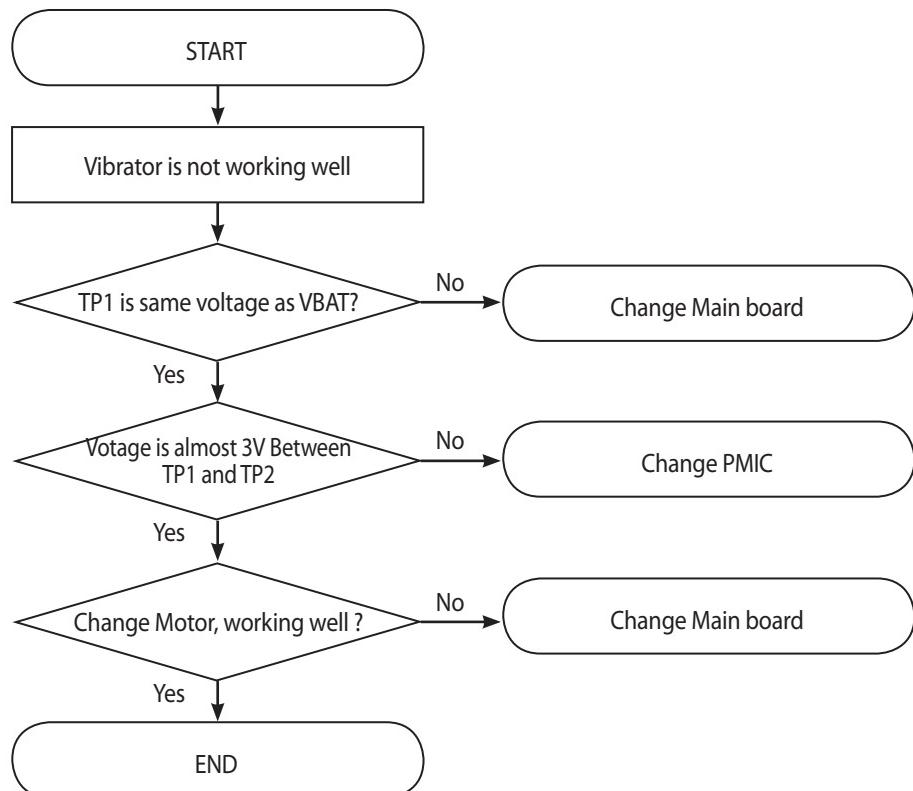
SENSOR\_I2C\_SDA / SCL

## 4. TROUBLE SHOOTING



### 4.16 DC Motor Trouble Shooting

Vibrator is worked as below

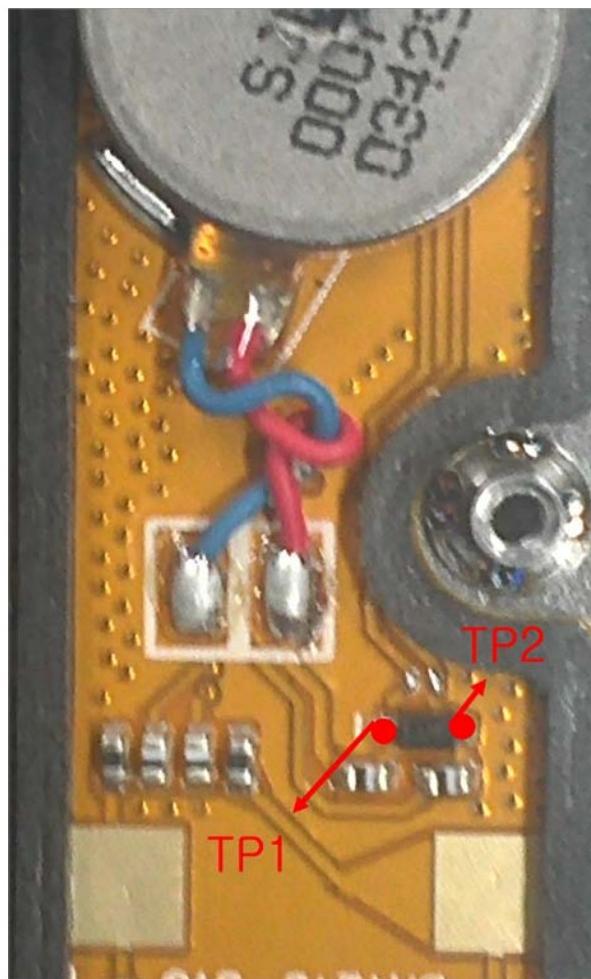
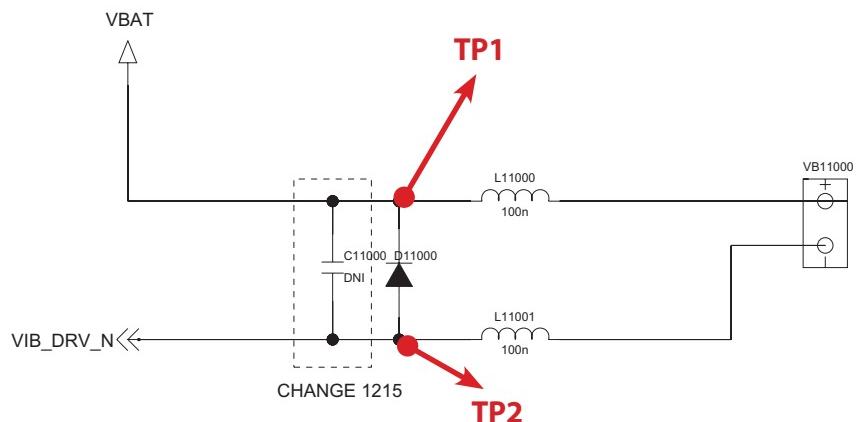


#### Measurement

VBAT

VIB\_DRV\_N

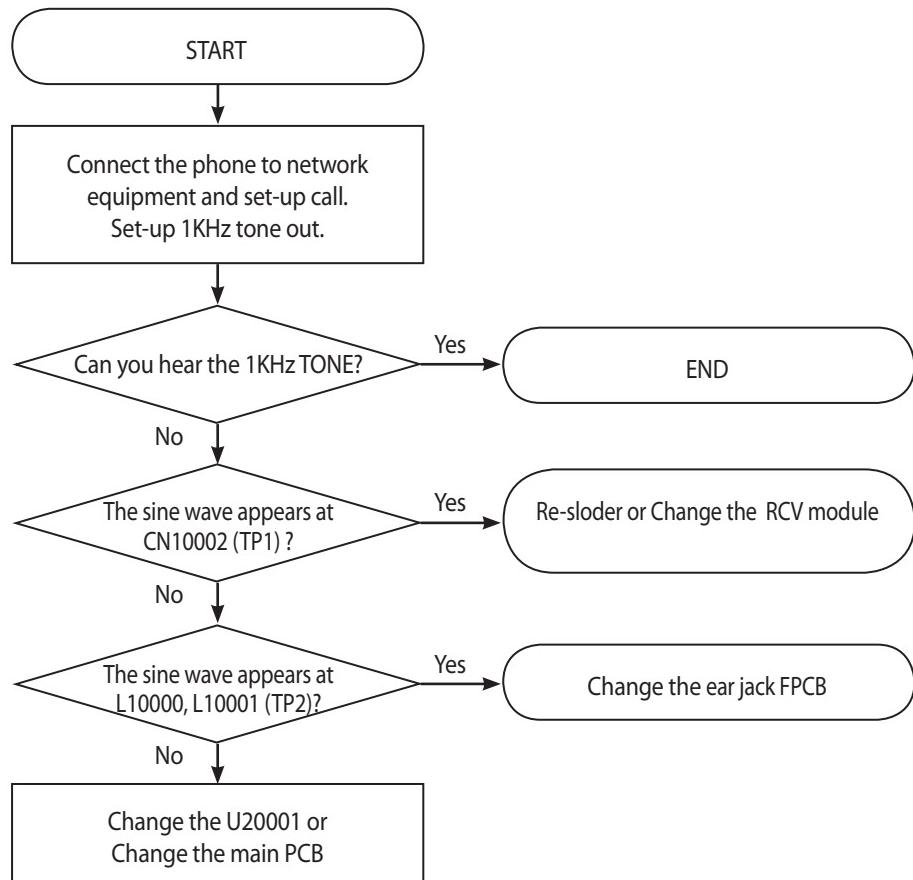
# DC MOTOR



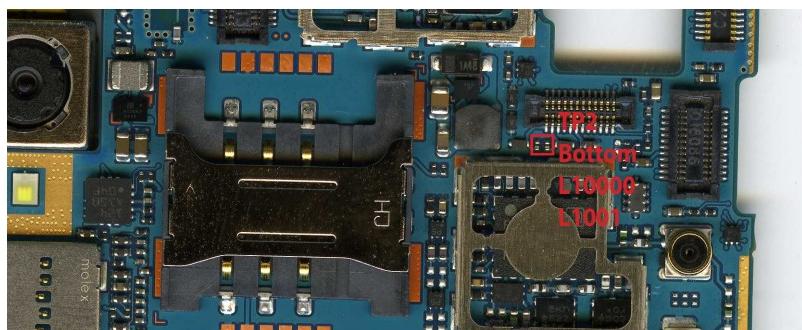
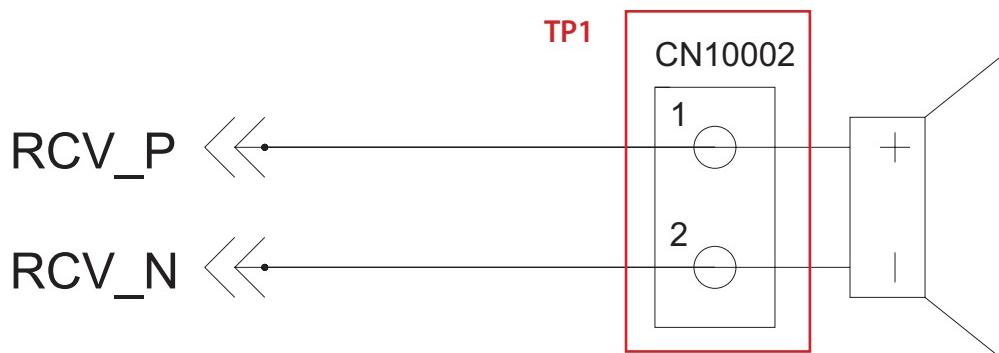
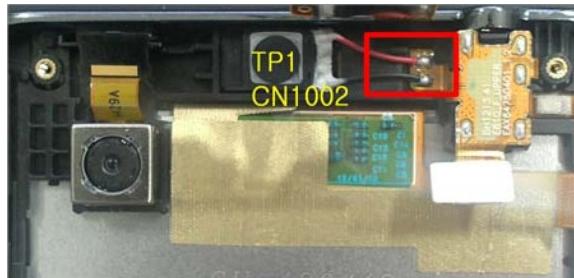
### 4.17 Audio Trouble

#### 4.17.1 Receiver Path

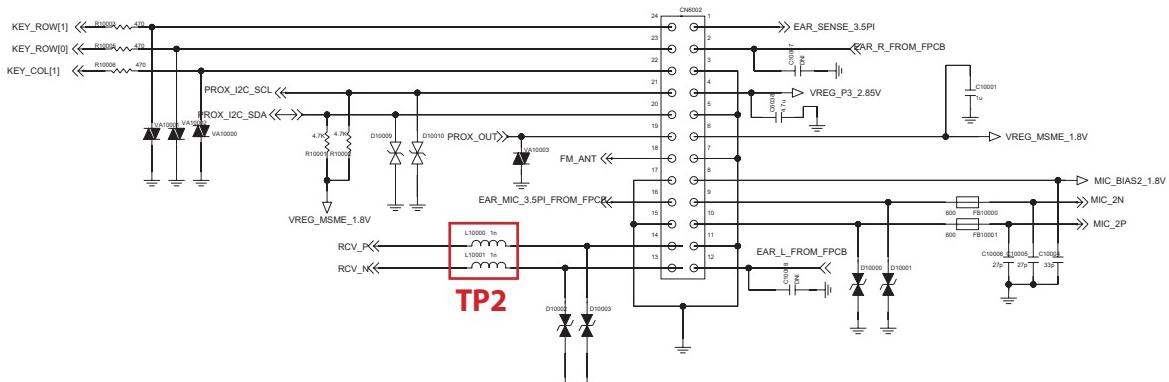
MSM7225A EAR1\_OP, EAR1\_ON -> RCV\_P, RCV\_N -> CN1002(TP1) -> L10000,L10001(TP2)



## 4. TROUBLE SHOOTING

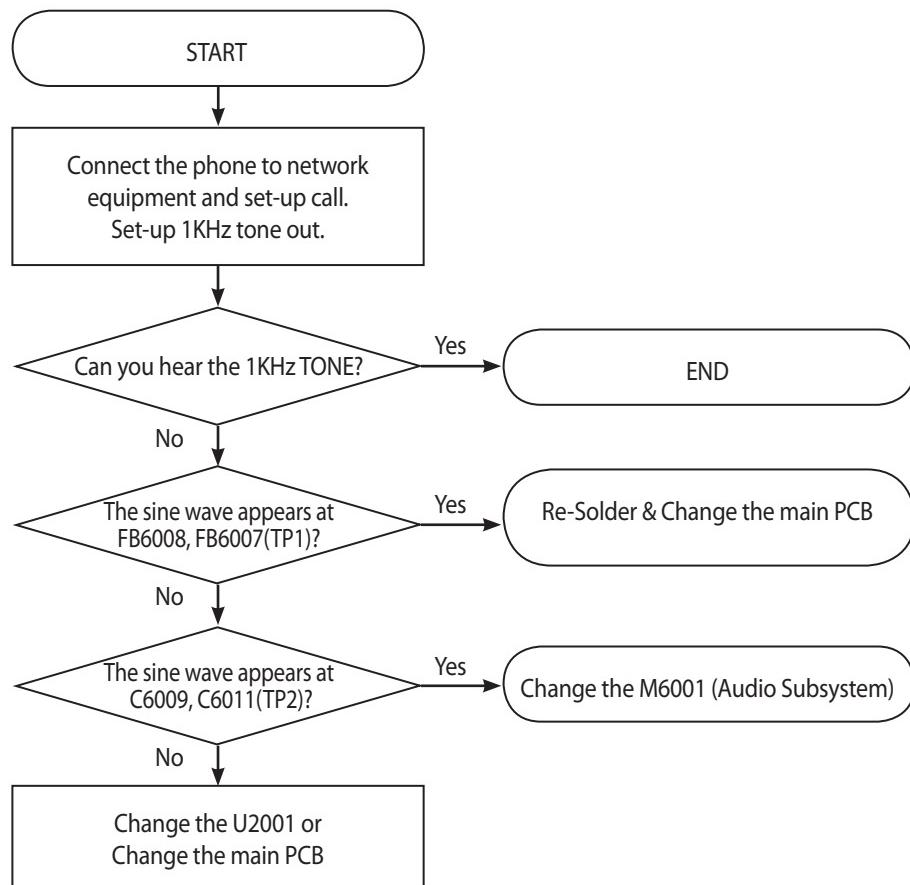


## FPCB\_EARJACK Connector

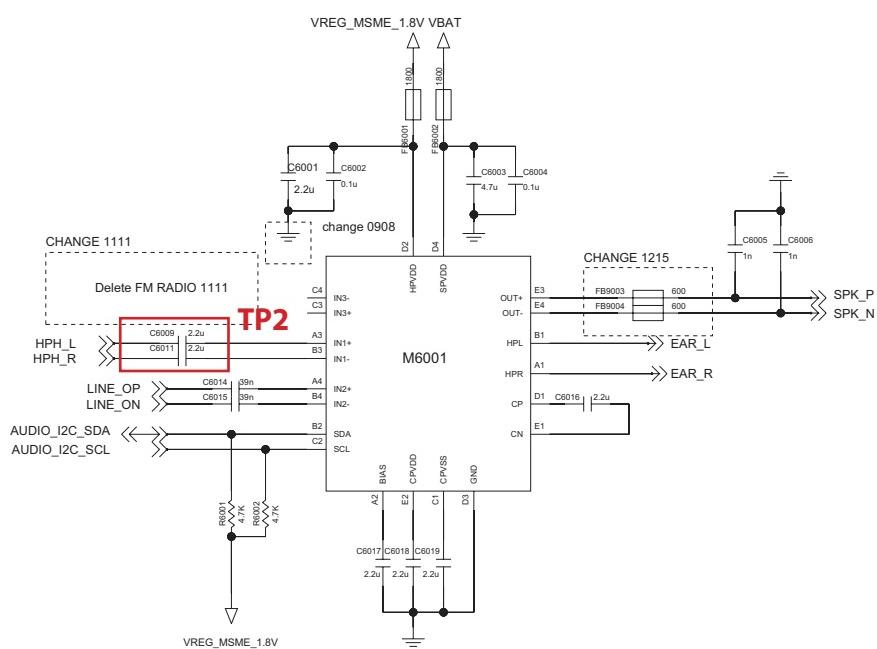
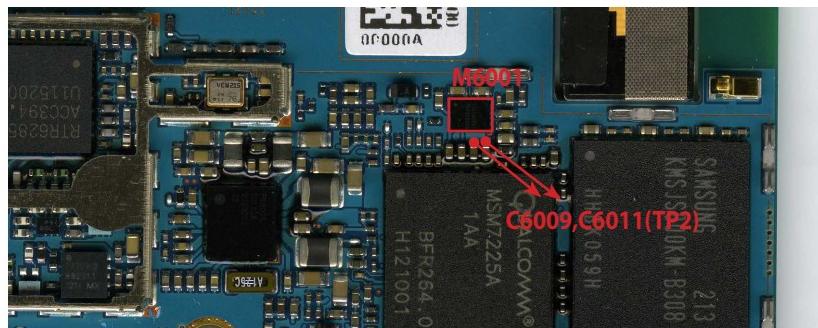
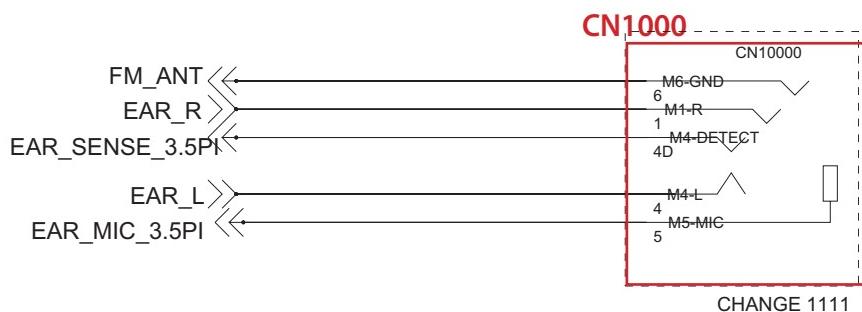


### 4.17.2 Headset path

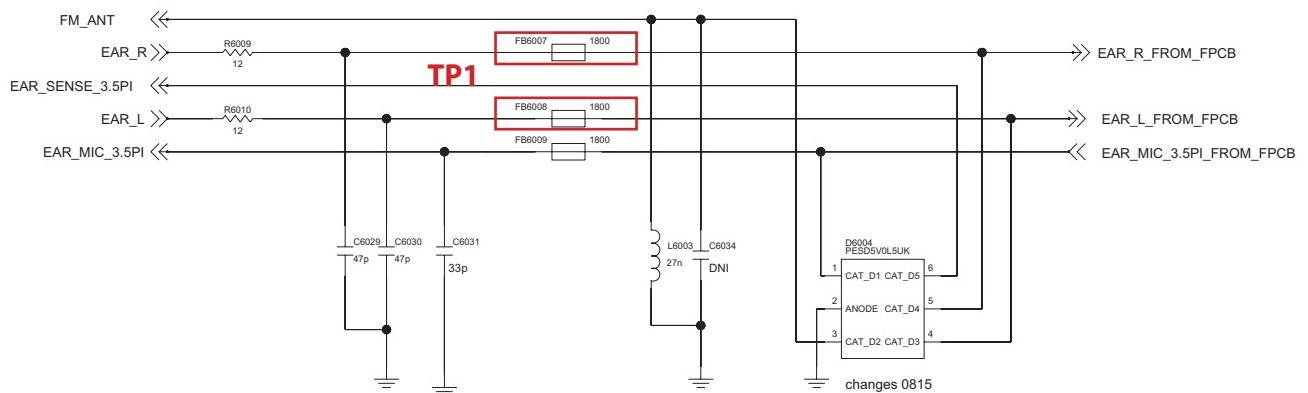
MSM7225A HPH\_R, HPH\_L -> C6009, C6011(TP2) -> M6001 (TPA2055D3: Audio Subsystem) ->  
R6009, R6010 -> FB6008, FB6007(TP1) -> CN10000( 3.5pi Ear-jack )



## 4. TROUBLE SHOOTING



## 4. TROUBLE SHOOTING

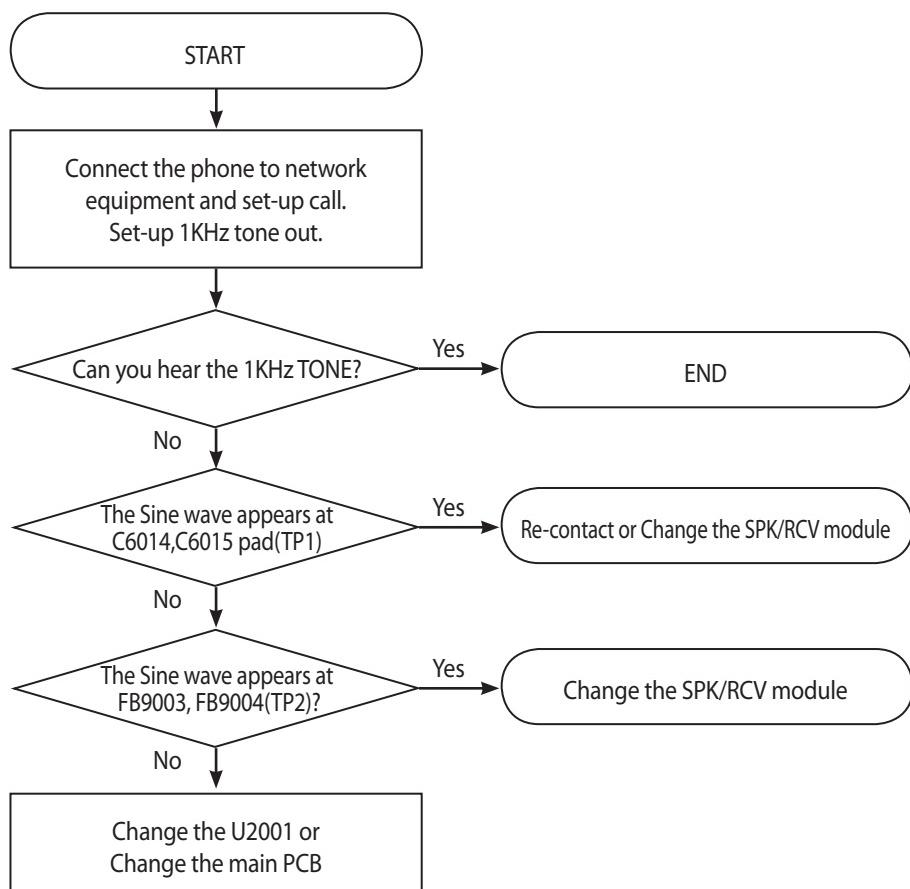


change 1111 -Close to earjack conn

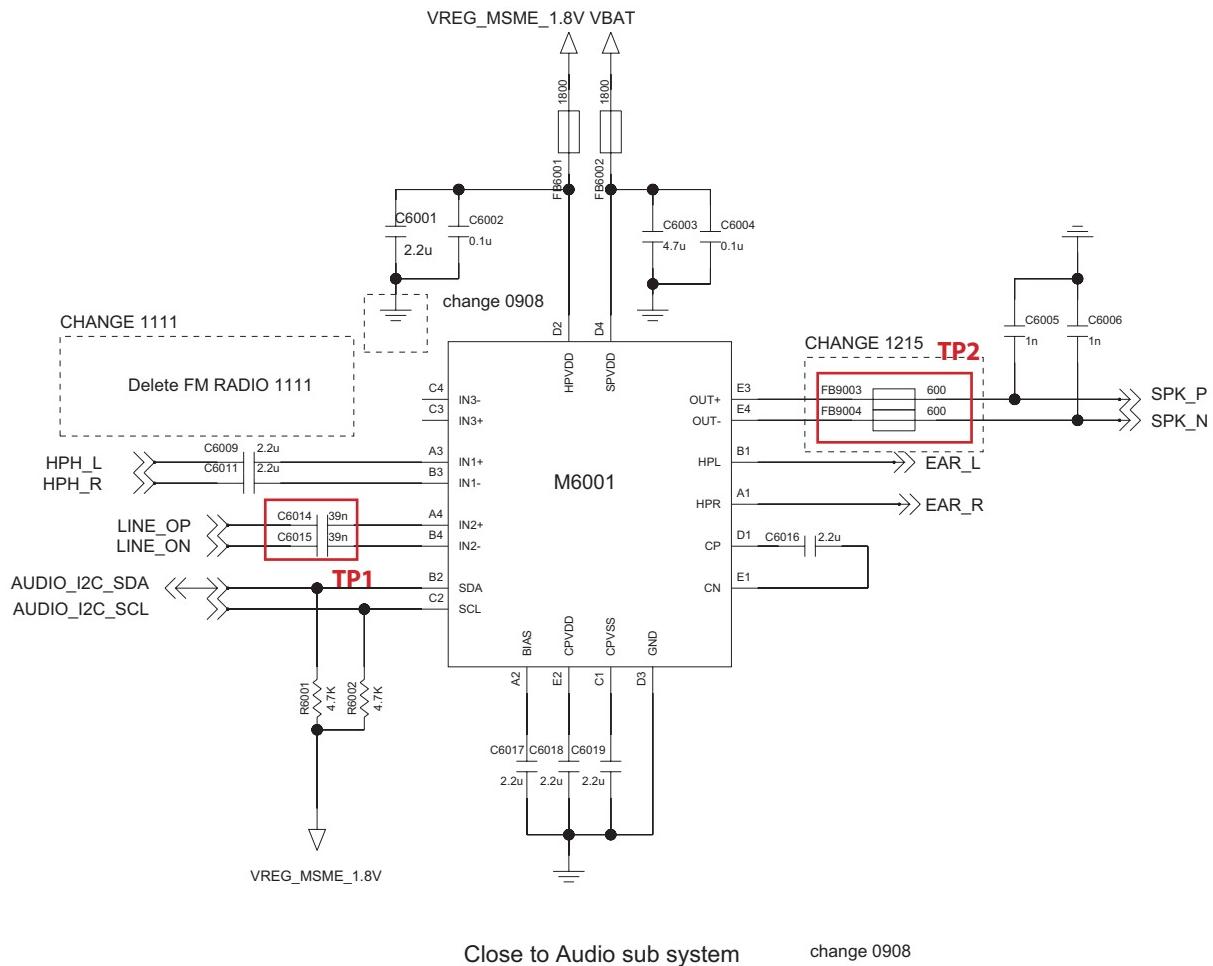
### 4.17.3 Speaker/Speaker Phone path

MSM7225A LINE\_OP,LINE\_ON -> C6014,C6015(TP1) -> M6001TPA2055D3 :

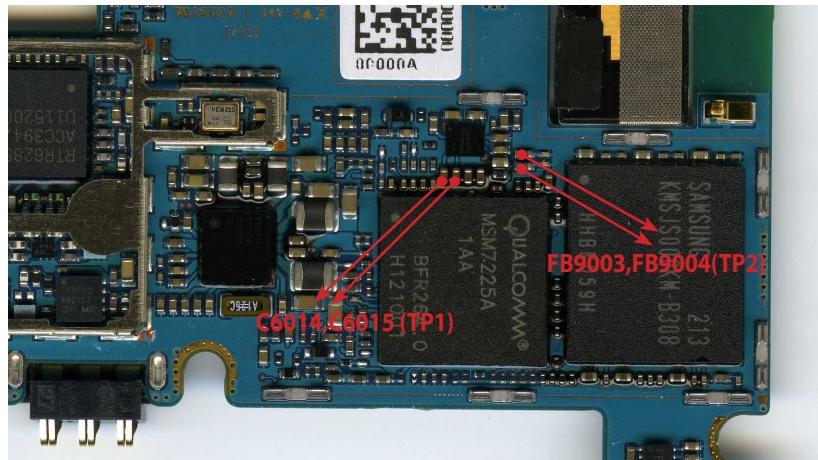
Audio Subsystem)-> FB9003, FB9004(TP2) -> CN11002



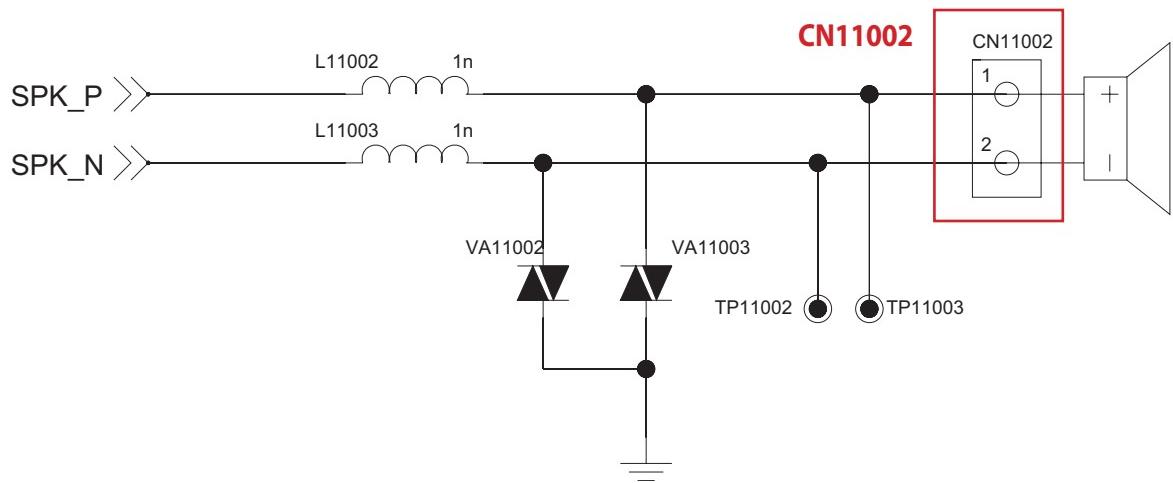
## 4. TROUBLE SHOOTING



Close to Audio sub system      change 0908



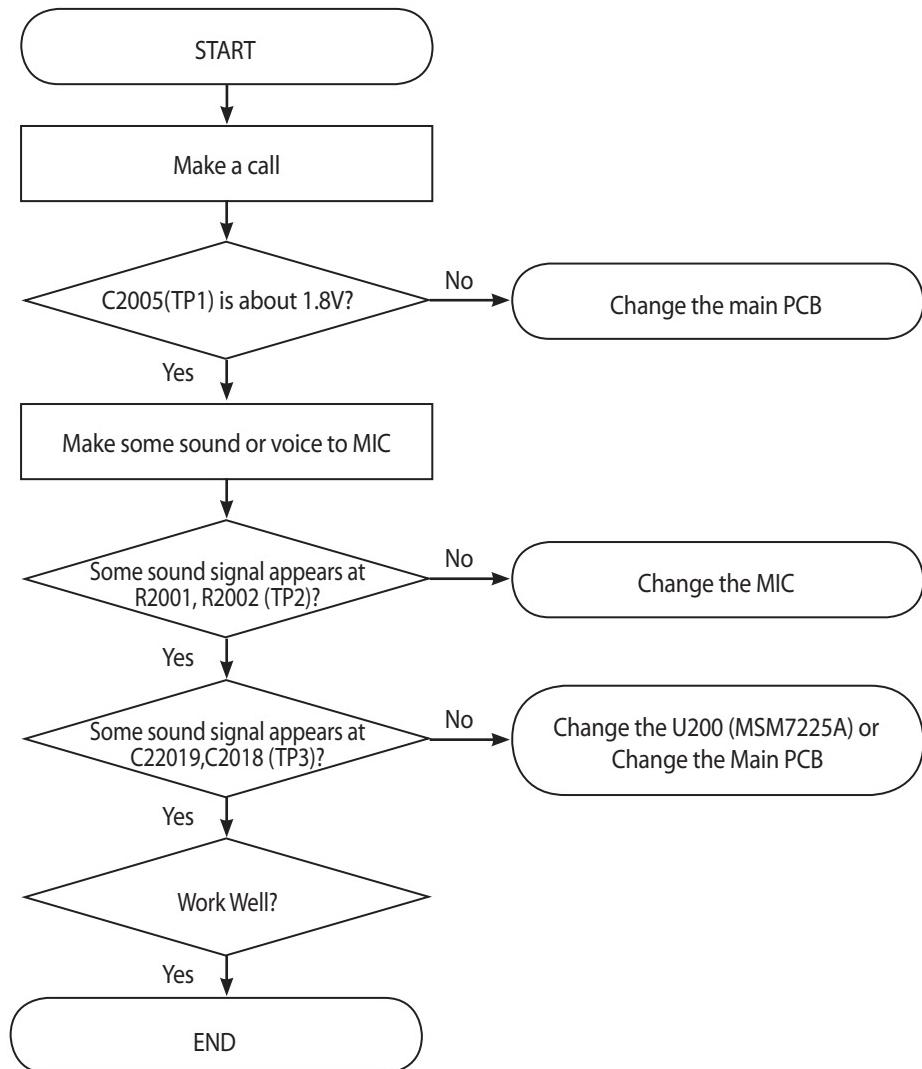
## 4. TROUBLE SHOOTING



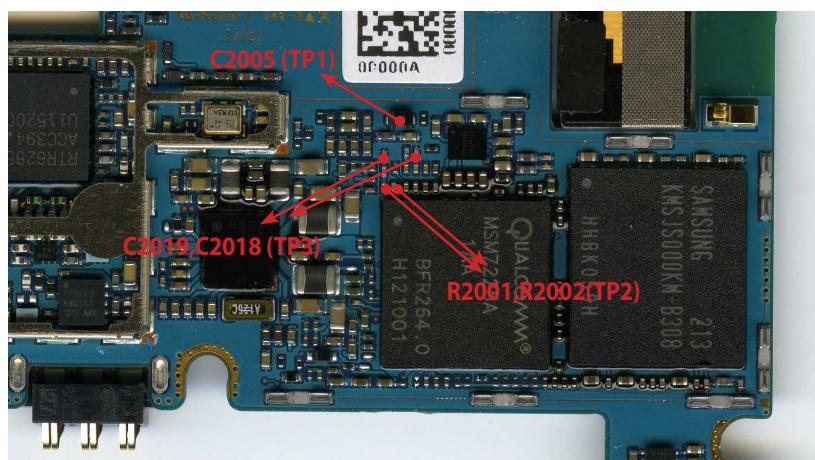
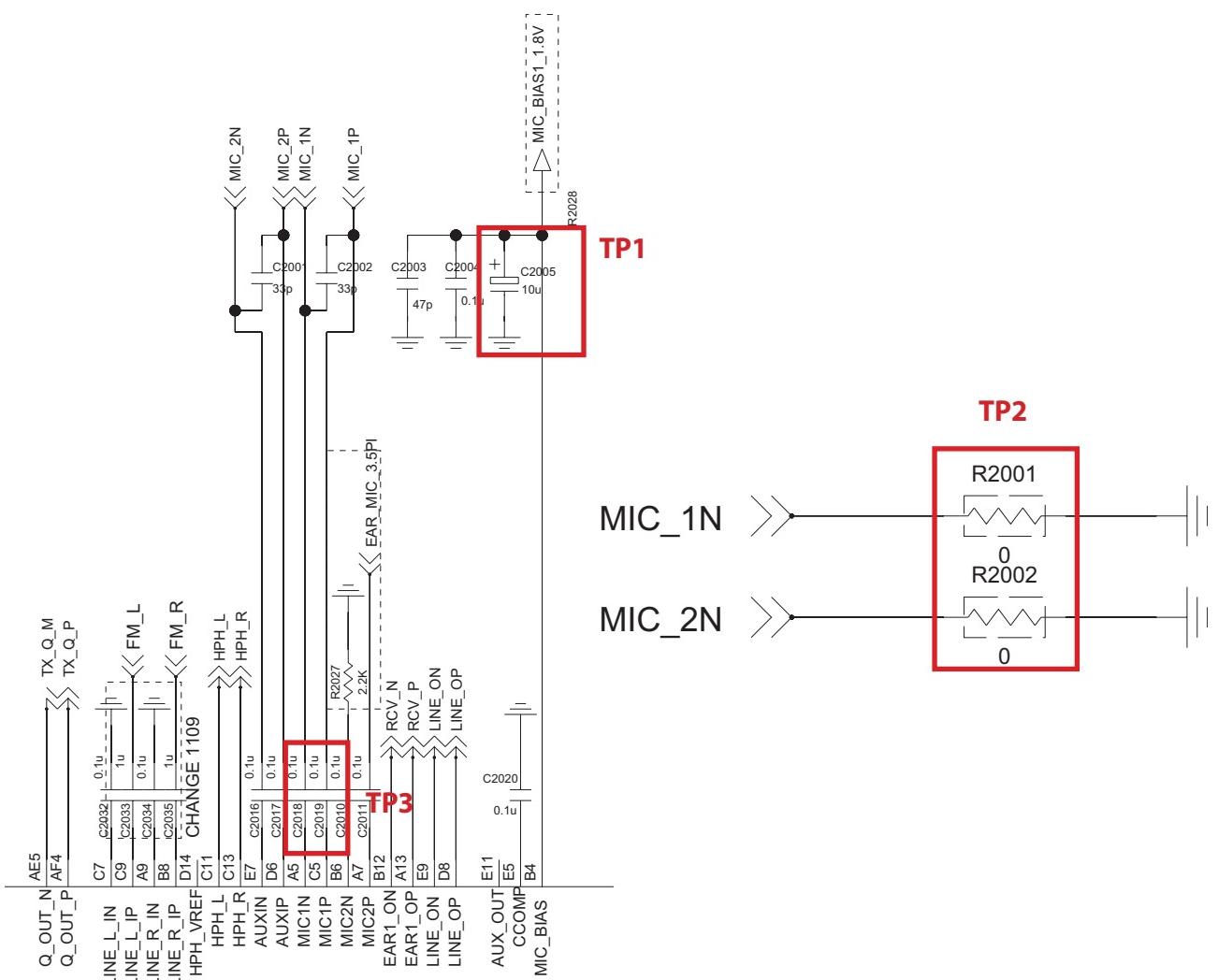
### 4.17.4 Main Microphone

MIC Signal: MIC1100 -> R2001,R2002 (TP2) -> C2019,C2018 (TP3) MIC1P of MSM7225A

MIC Bias: MIC\_BIAS -> C2005(TP1) -> MIC1100



## **4. TROUBLE SHOOTING**

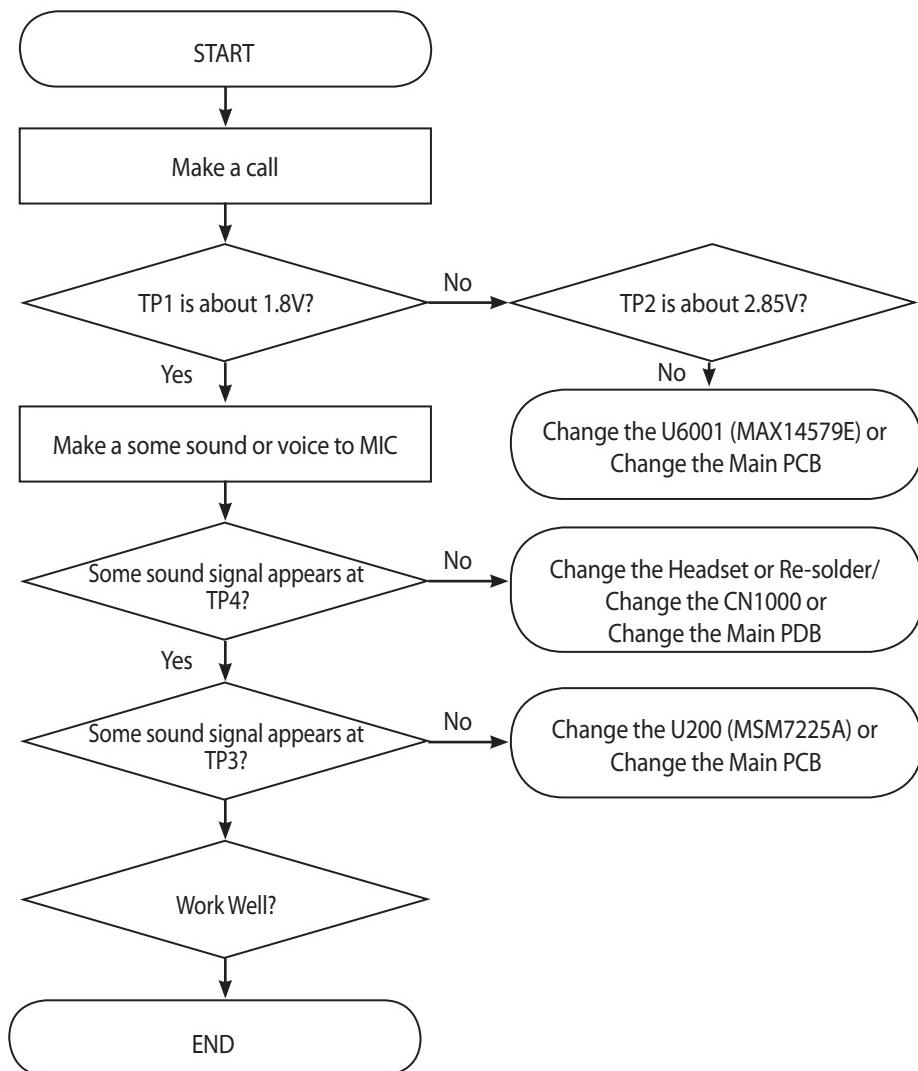


### 4.17.5 Headset microphone

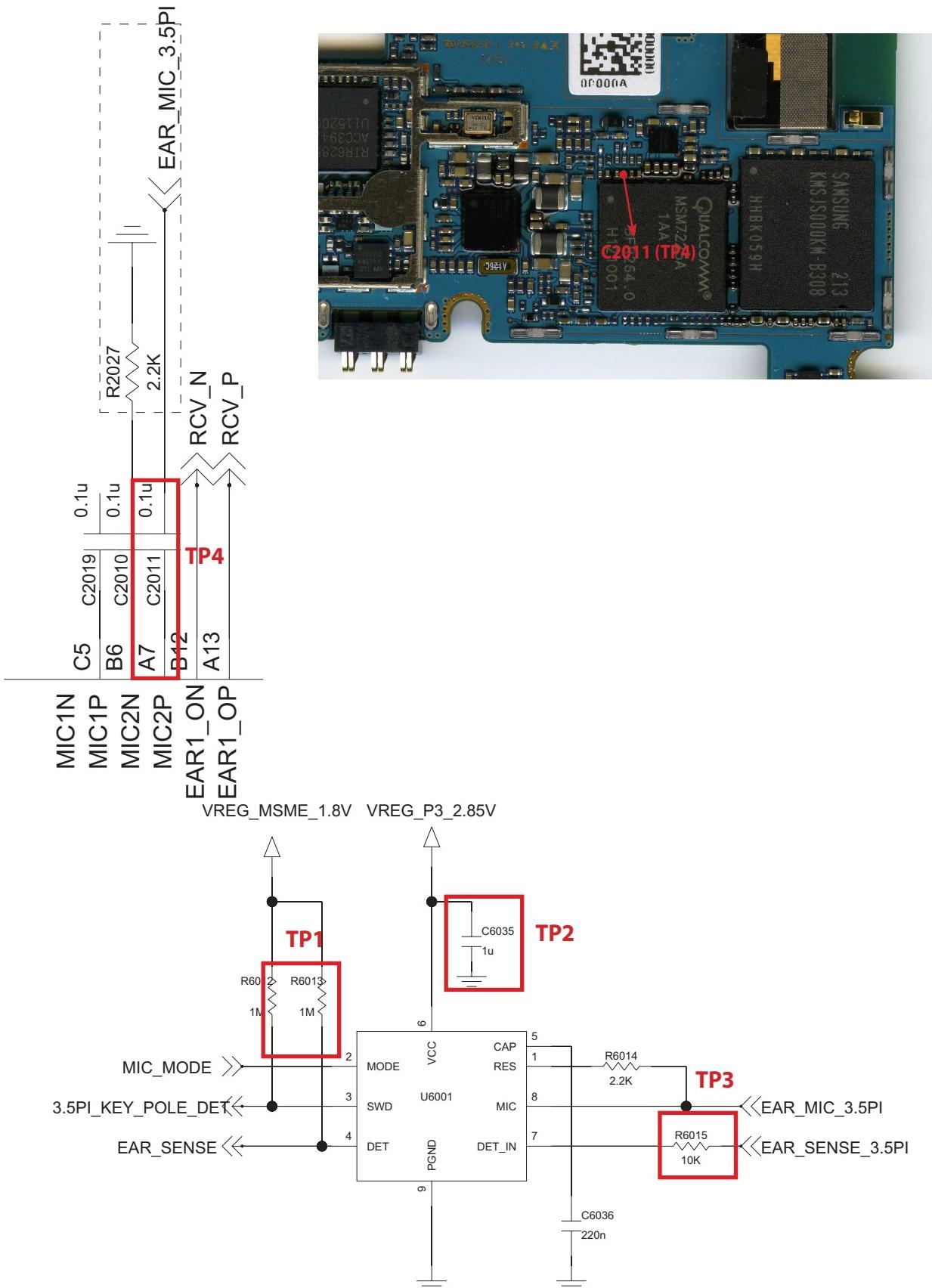
MIC Signal: 3.5 pi Headset (CN10000) -> R6014 (TP4) MIC of MAX14579E & C2011 (TP4) MIC2P of MSM7225A

MIC Bias : VREG\_MSME\_1.8V -> R6013 (TP1) DET -> R6015DET\_IN -> Headset MIC \

HS Detect IC Bias: VREG\_P3\_2.85V -> C6035 (TP2)

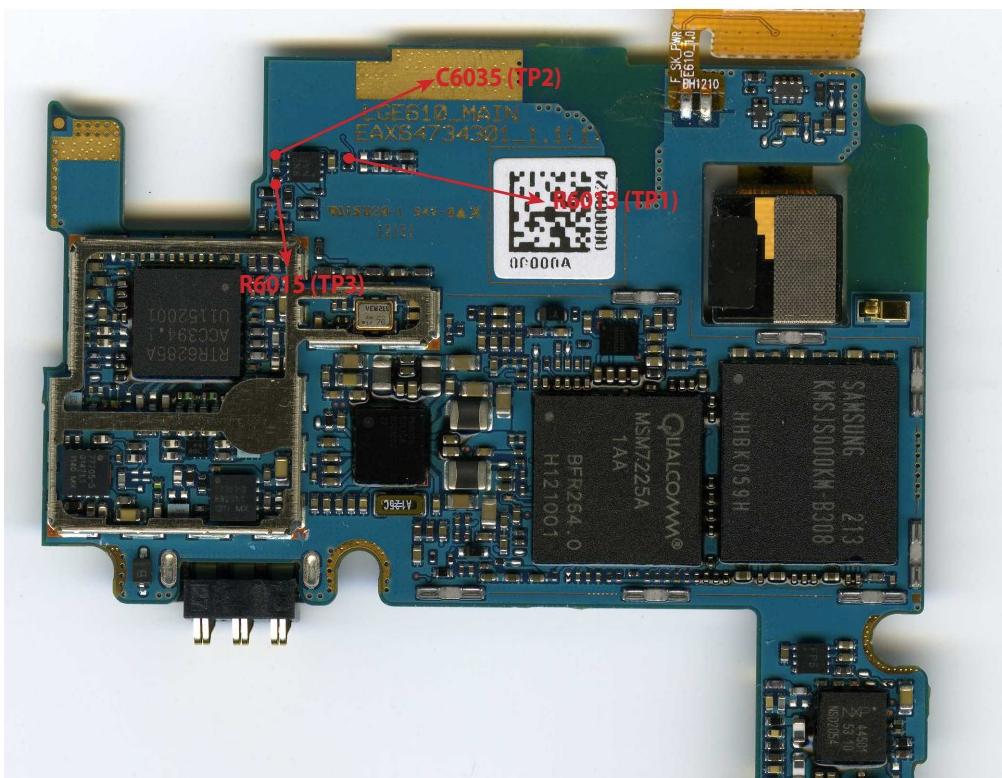


## 4. TROUBLE SHOOTING



## 4. TROUBLE SHOOTING

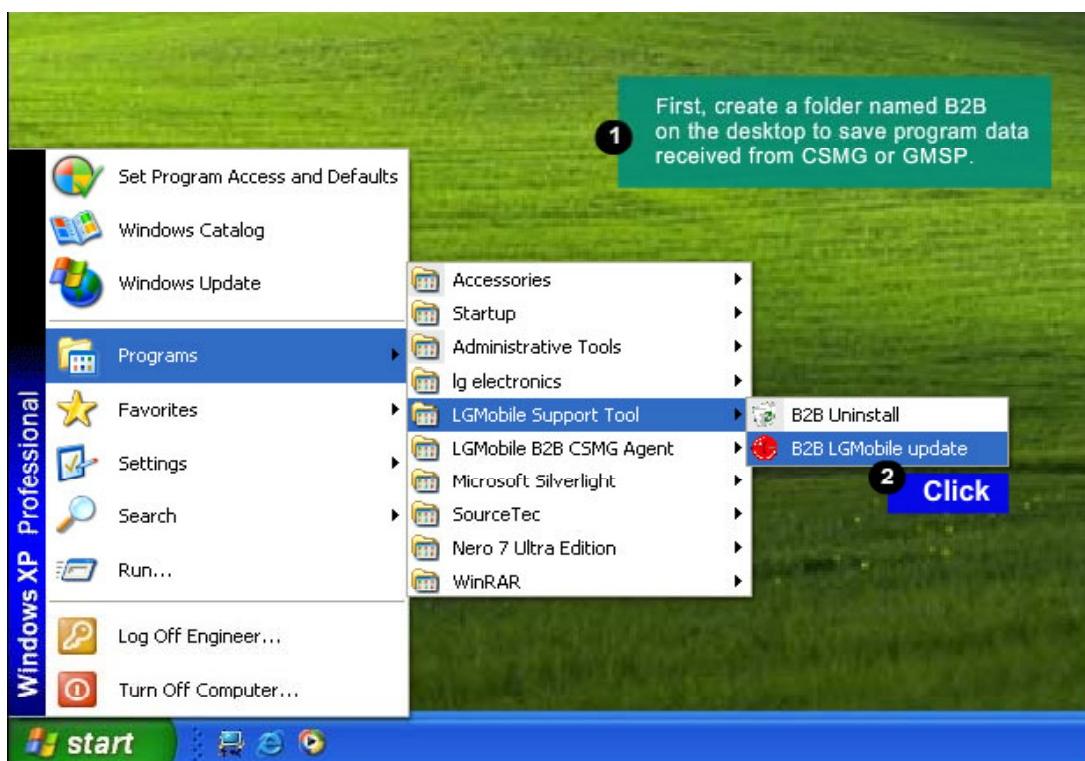
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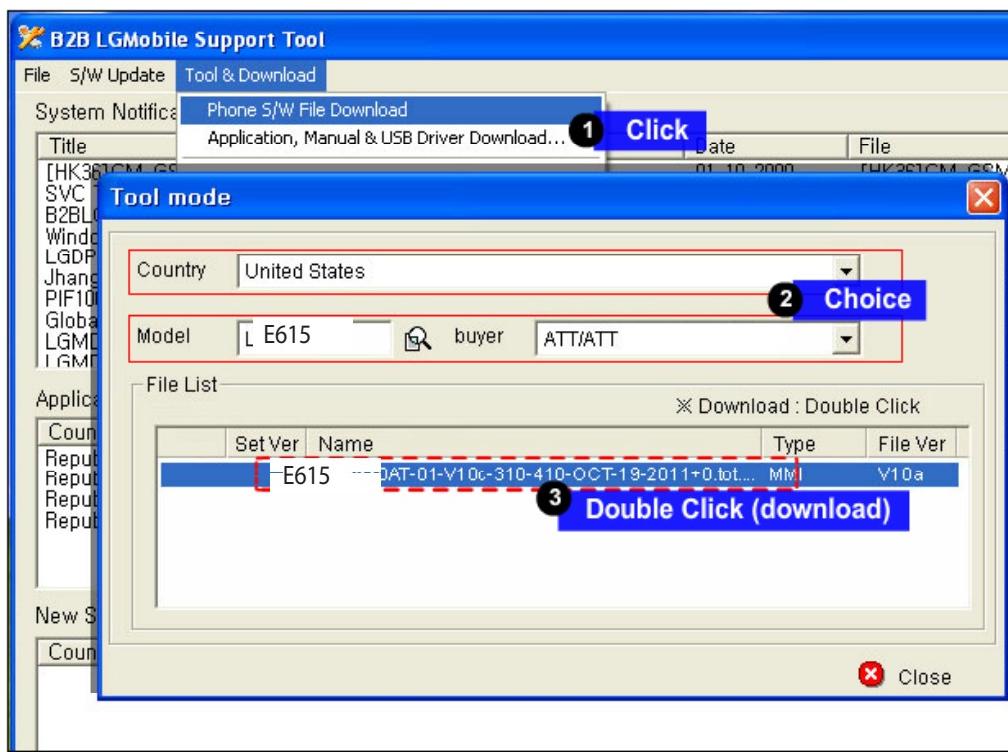
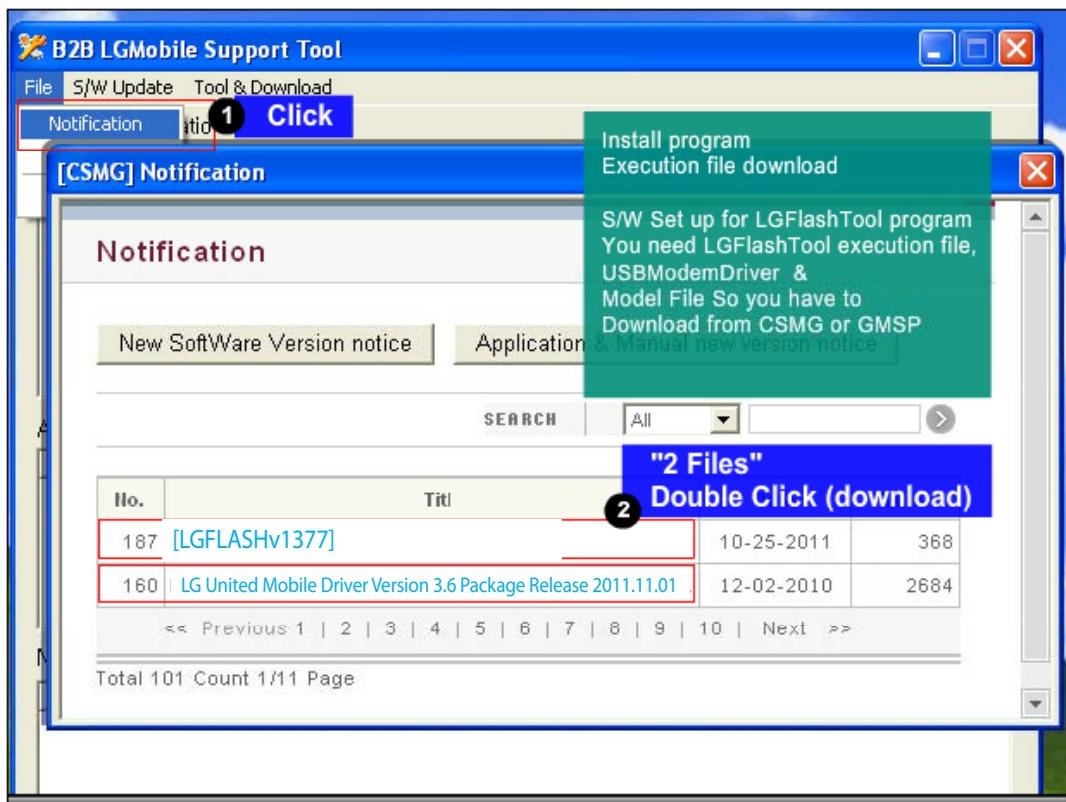
## 5. DOWNLOAD

### 5. DOWNLOAD

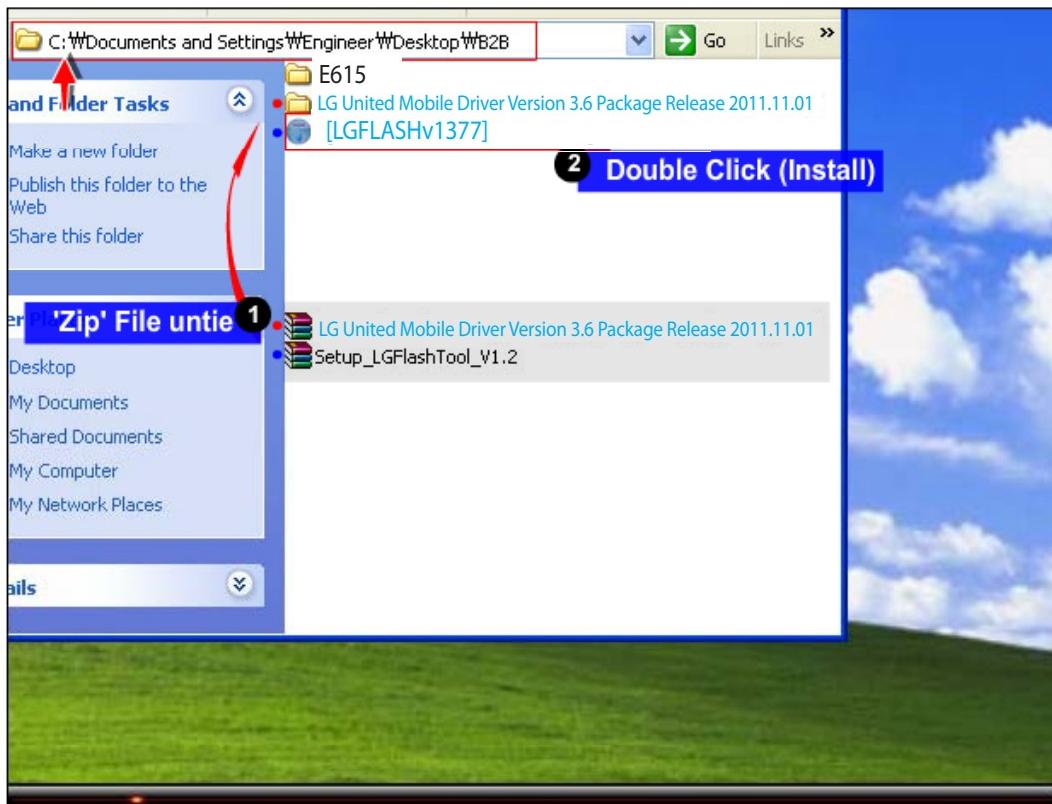
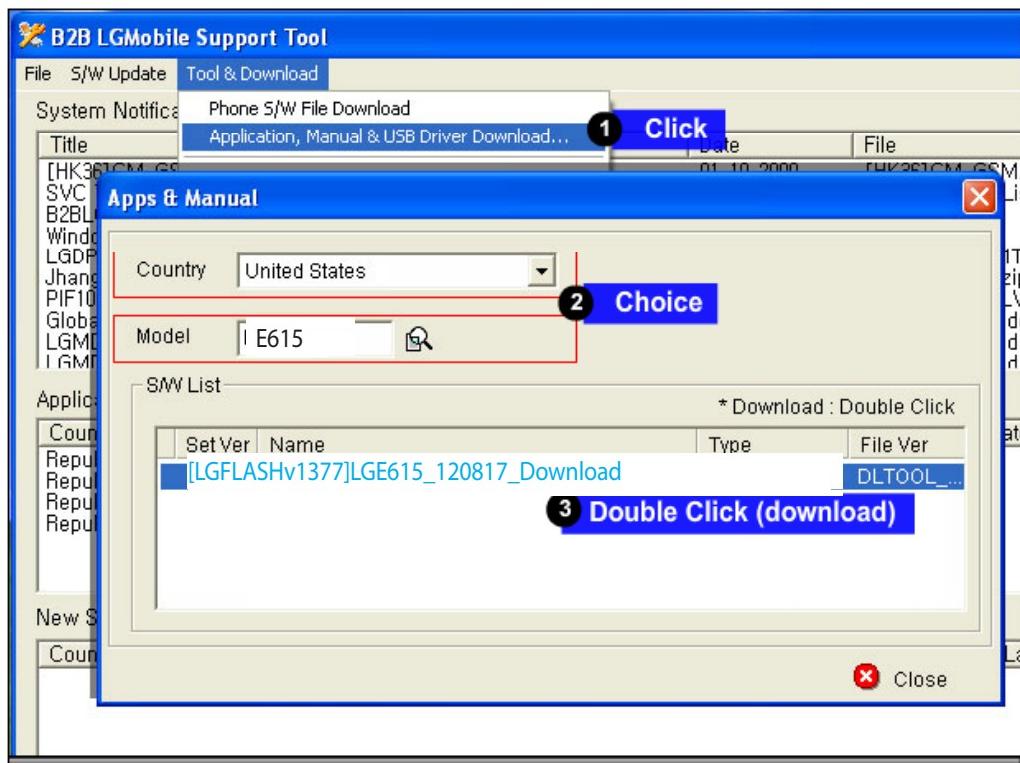
TOOL INFORMATION		
TOOL VERSION	DLL NAME	USB DRIVER
[LGFLASHv1377]	[LGFLASHv1377]LGE615_120817_ Download	LG United Mobile Driver Version 3.6 Package Release 2011.11.01
<b>Please Check the Version to "B2B"</b>		
<b>H/W</b>		
	Name	Part No.
D/L Cable	Micro 5P (56-open-910K) USB DLC	RAD32167835



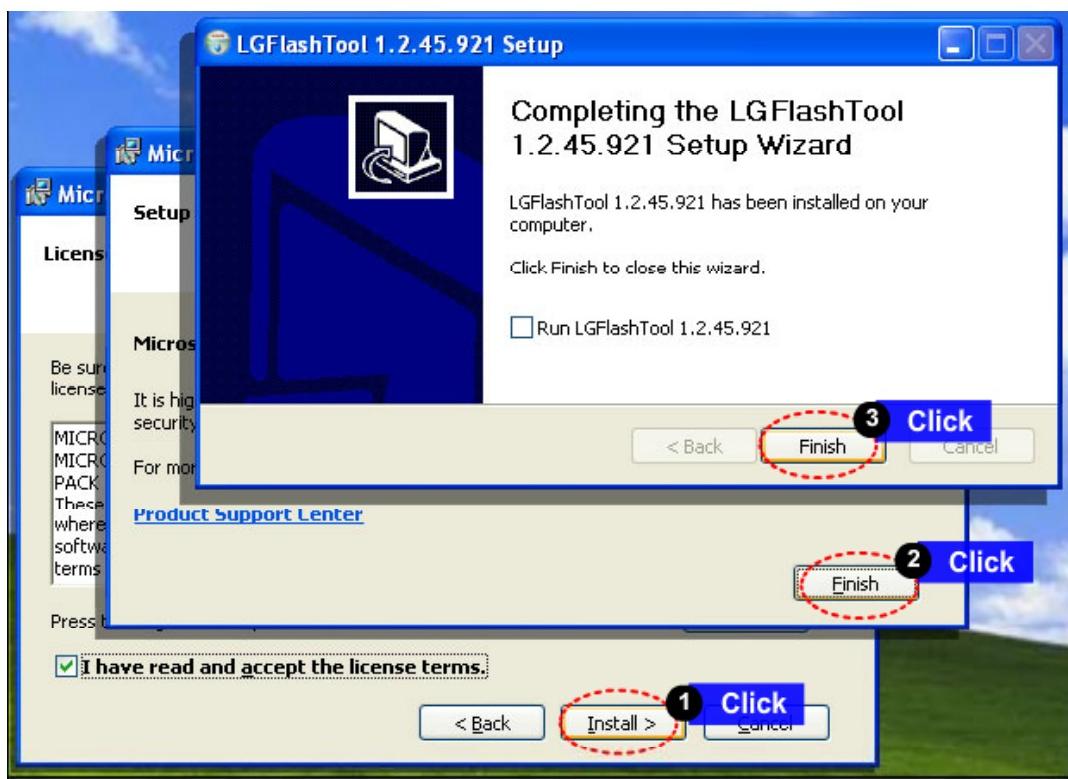
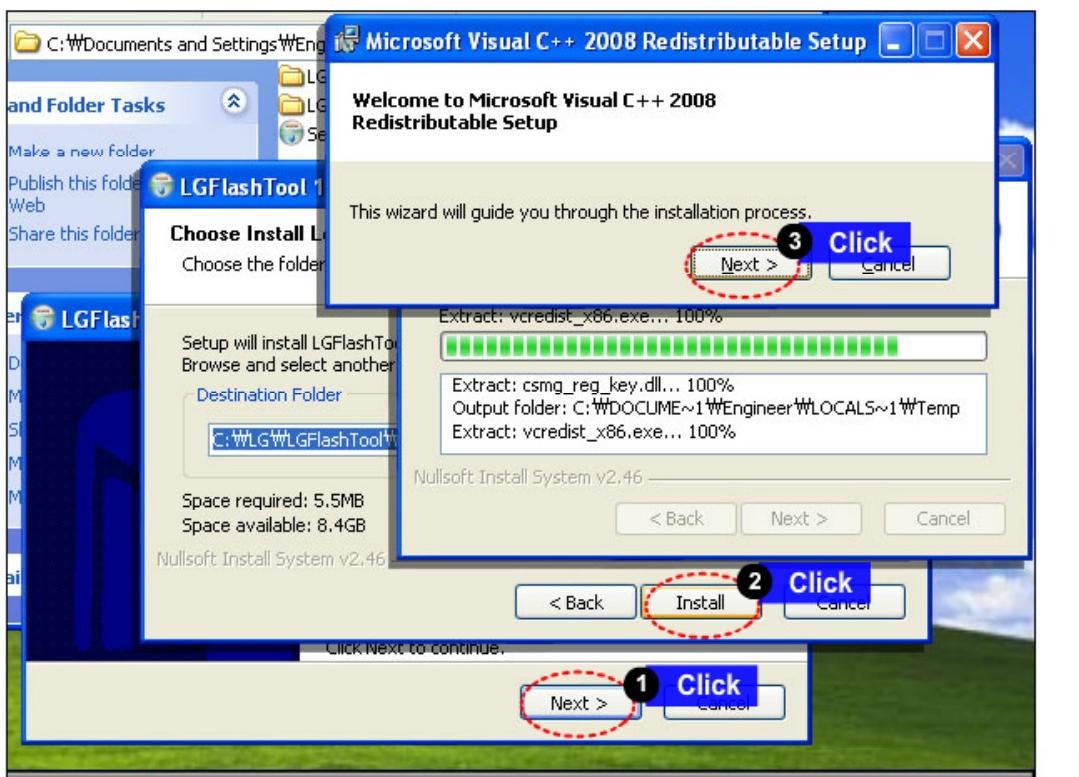
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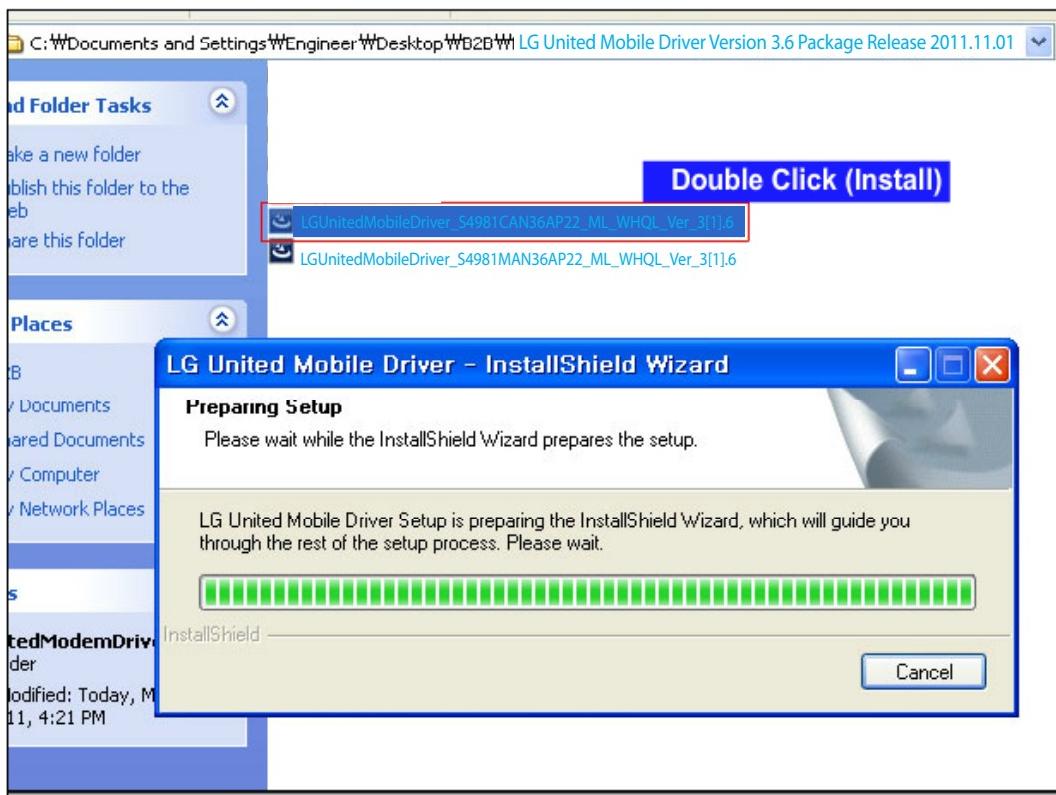
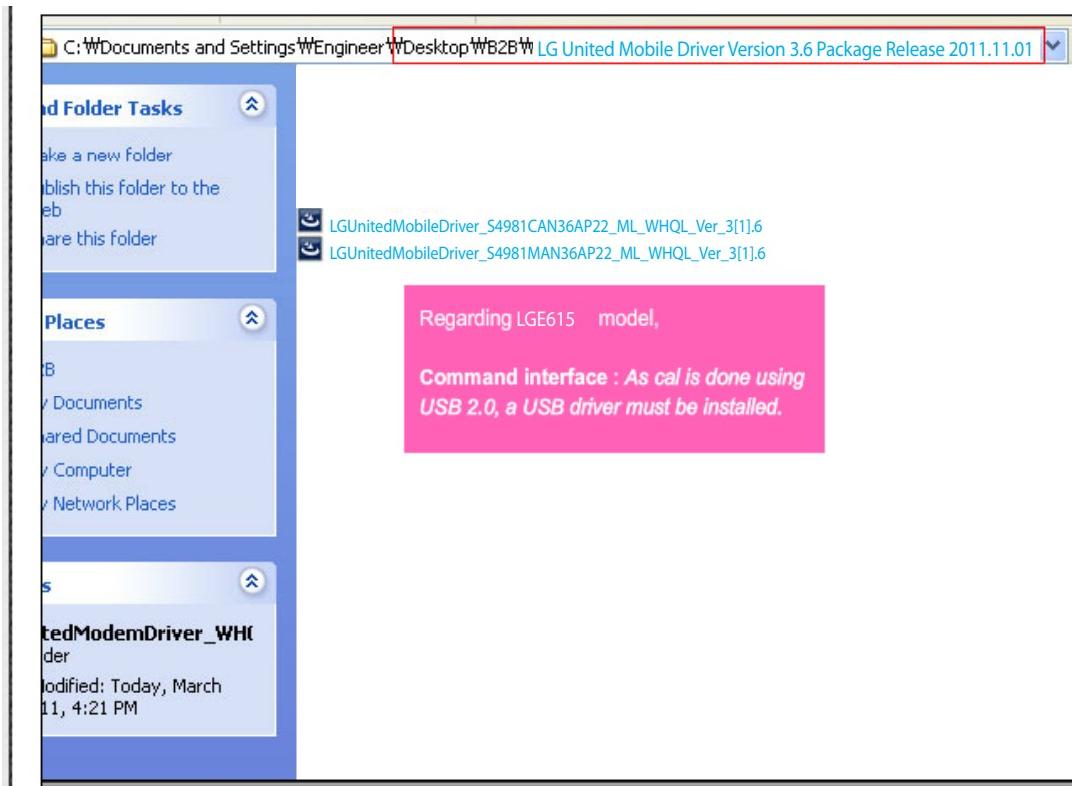
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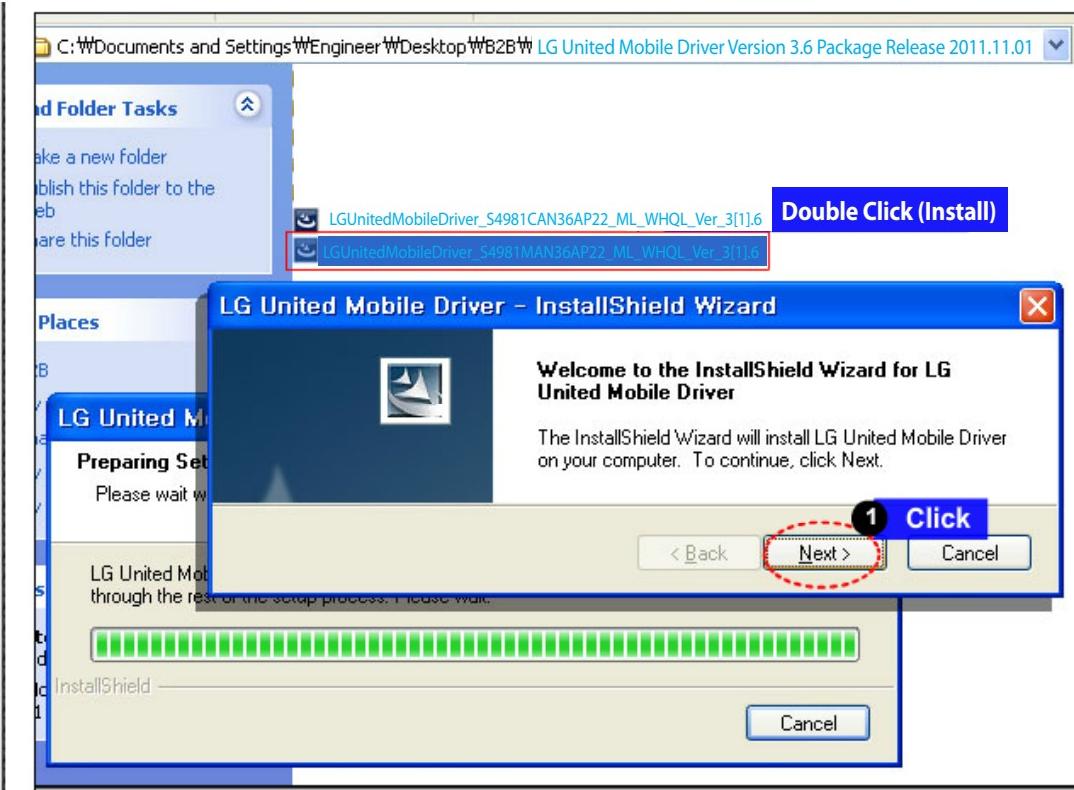
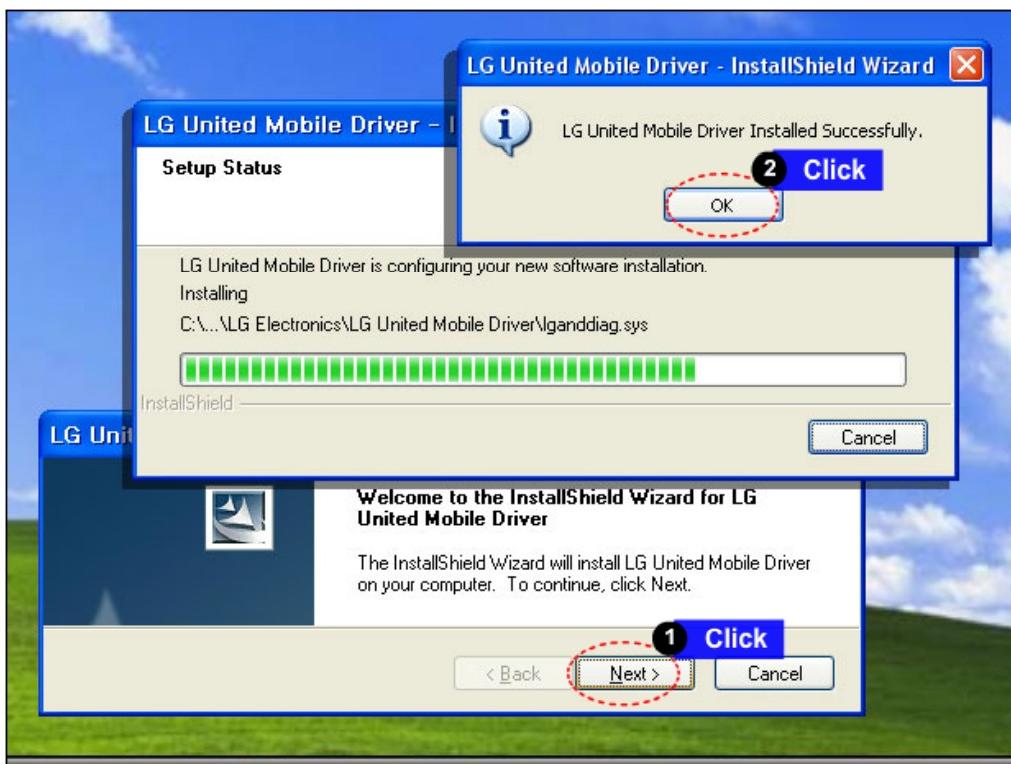
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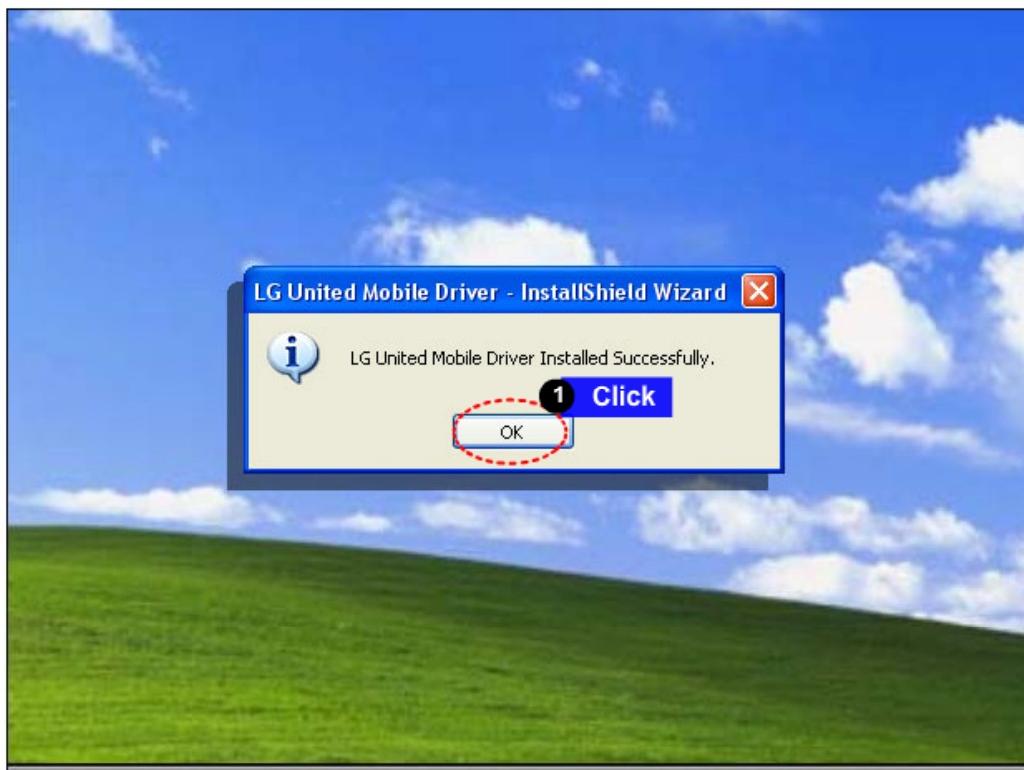
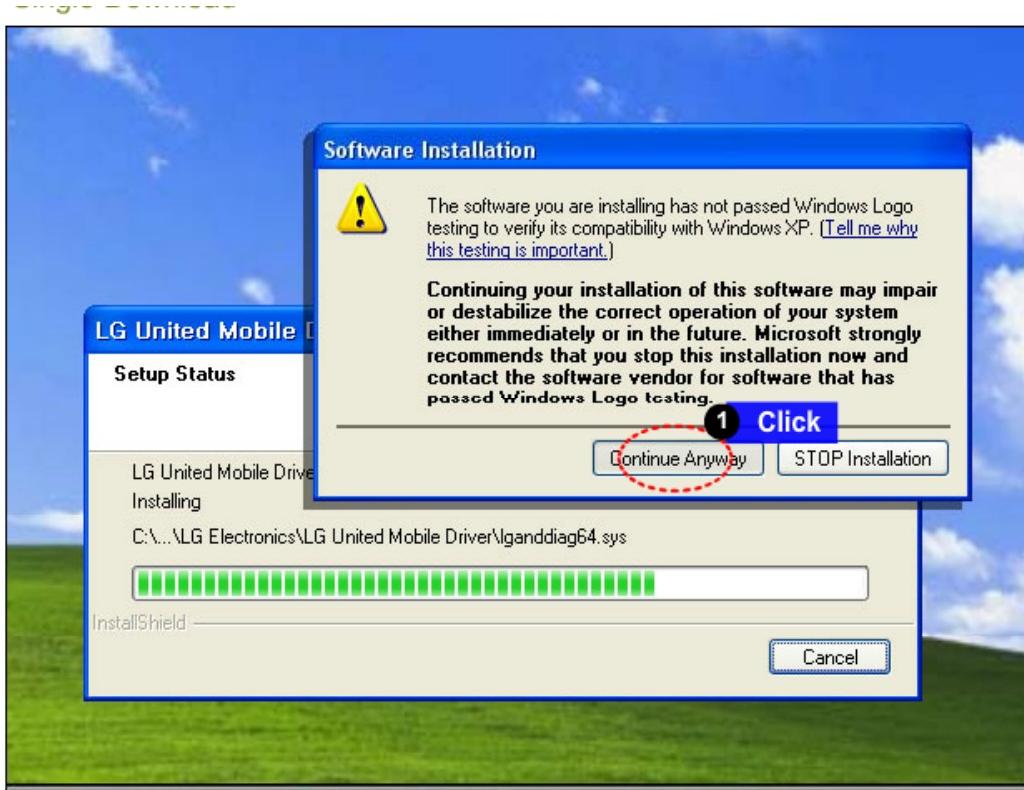
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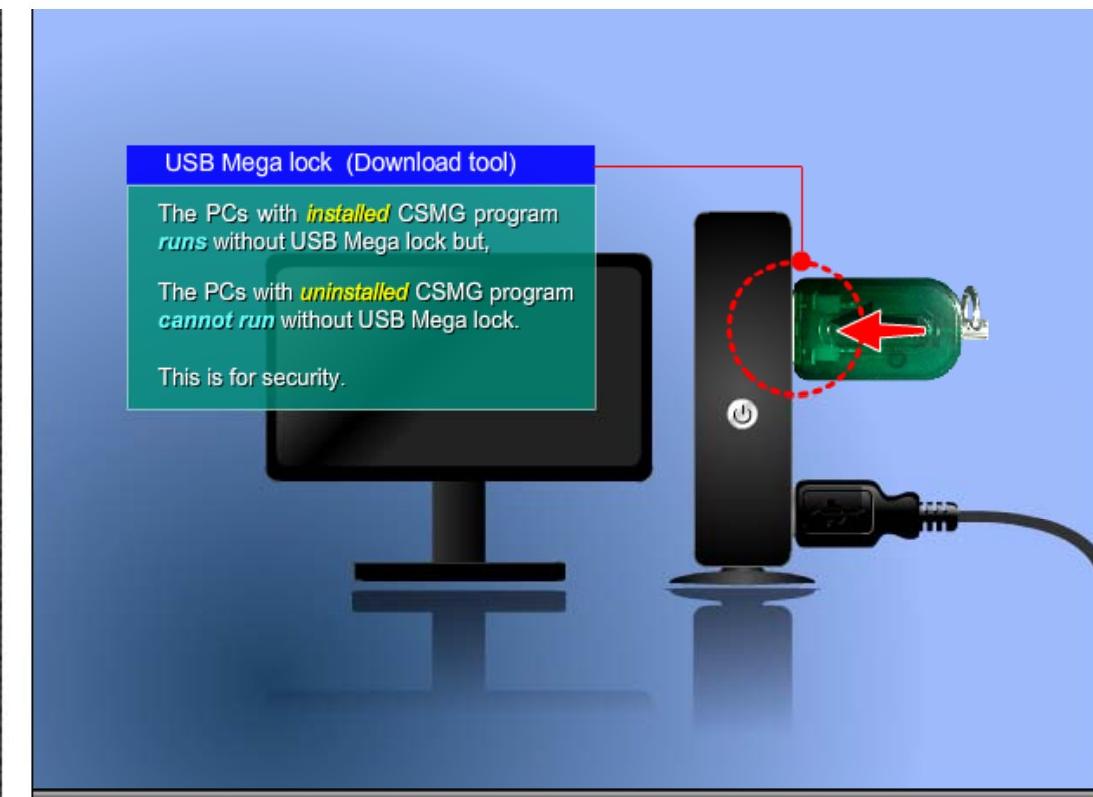
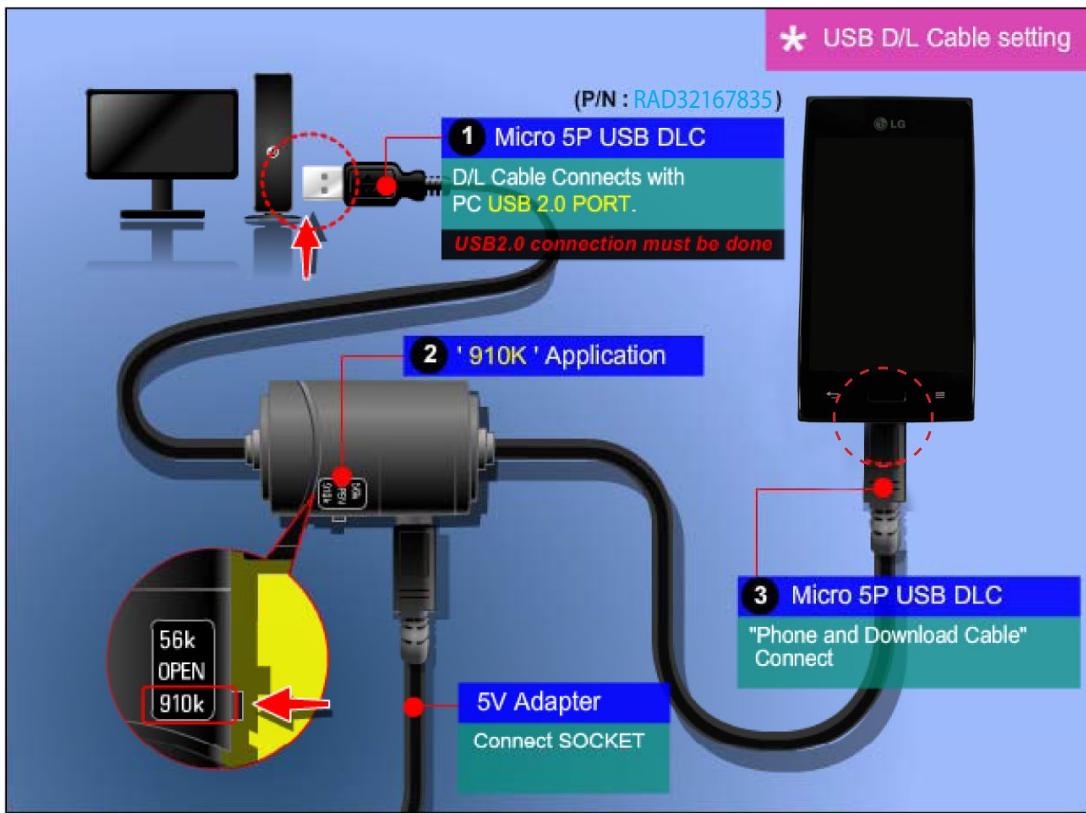
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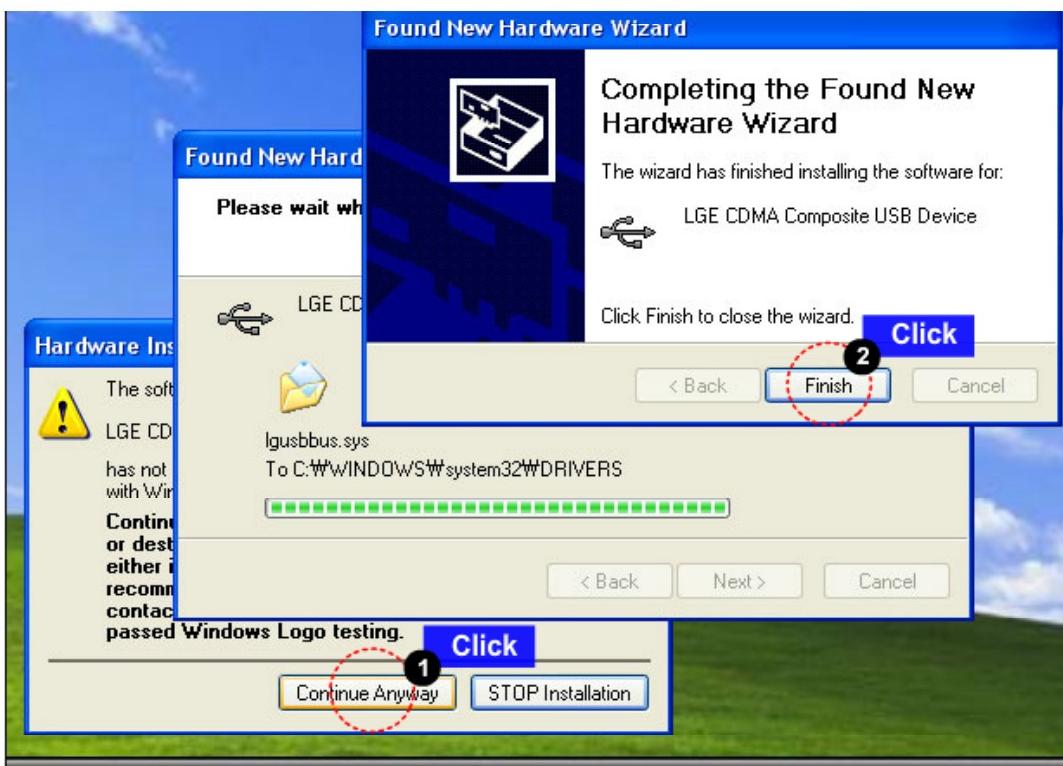
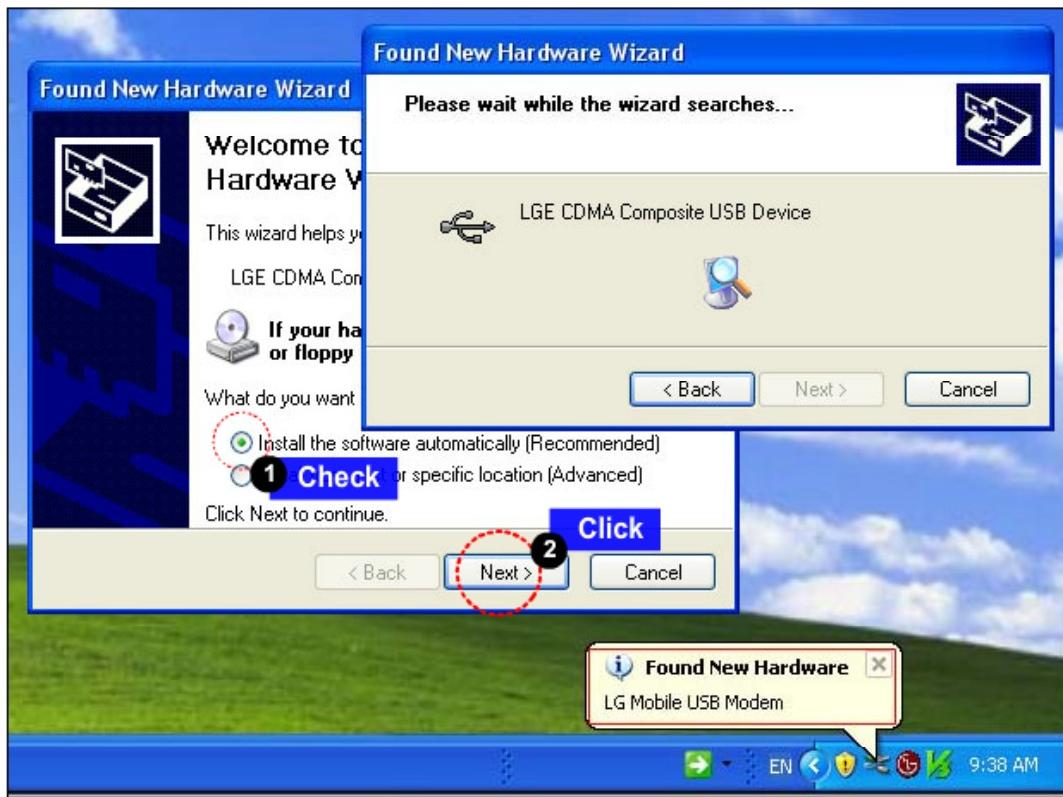
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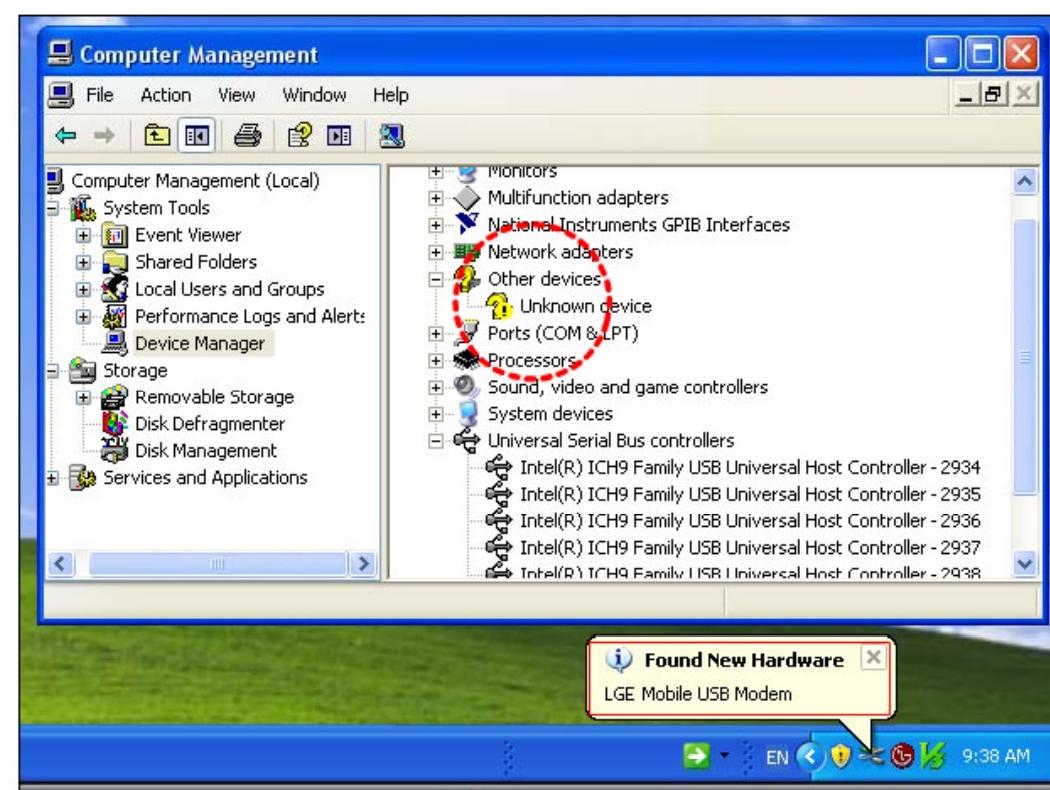
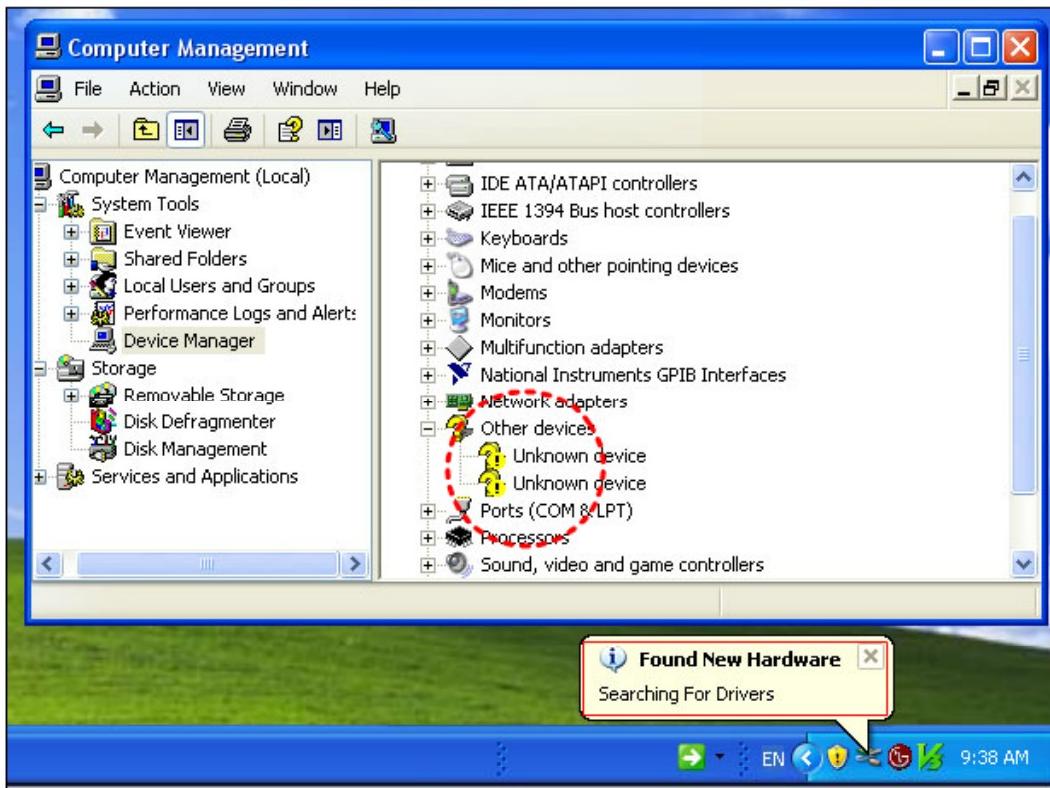
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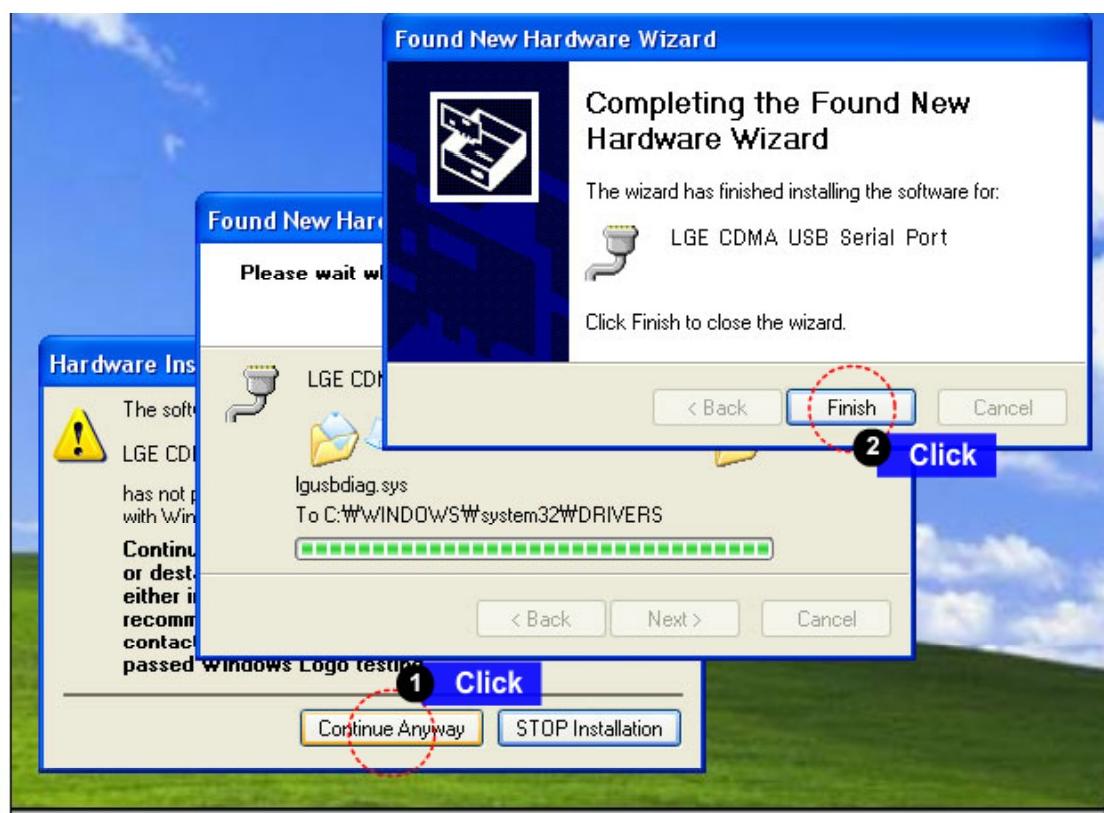
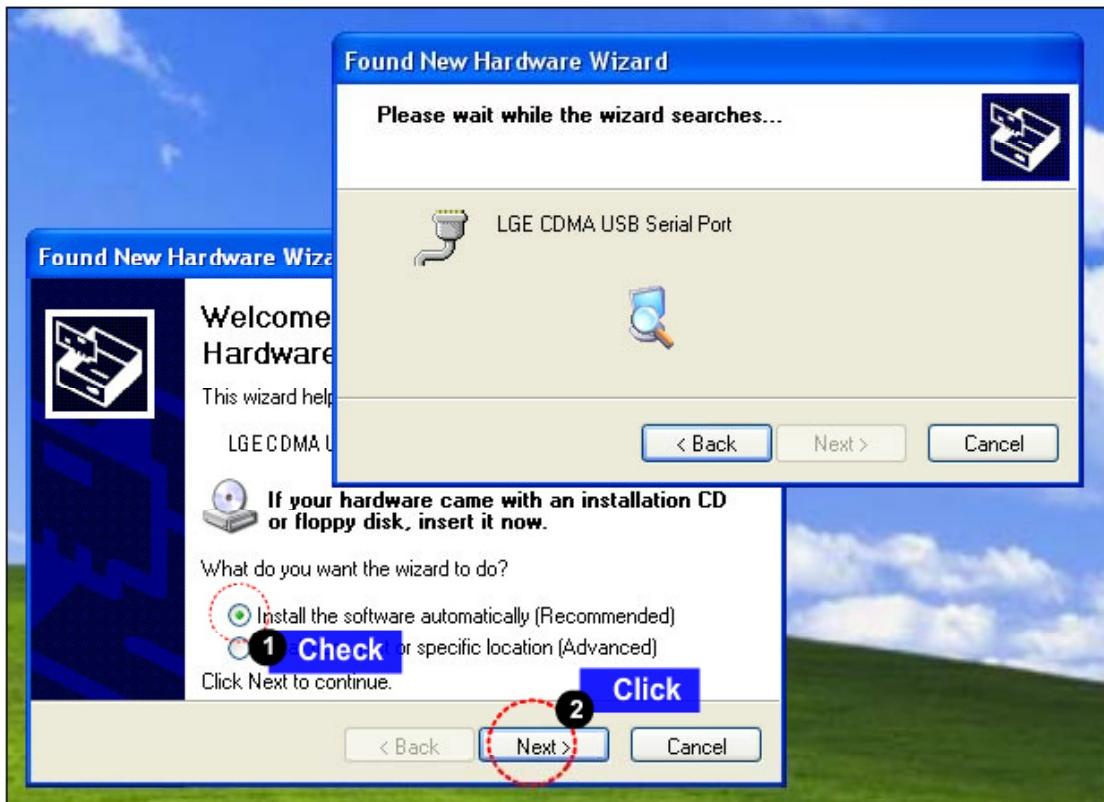
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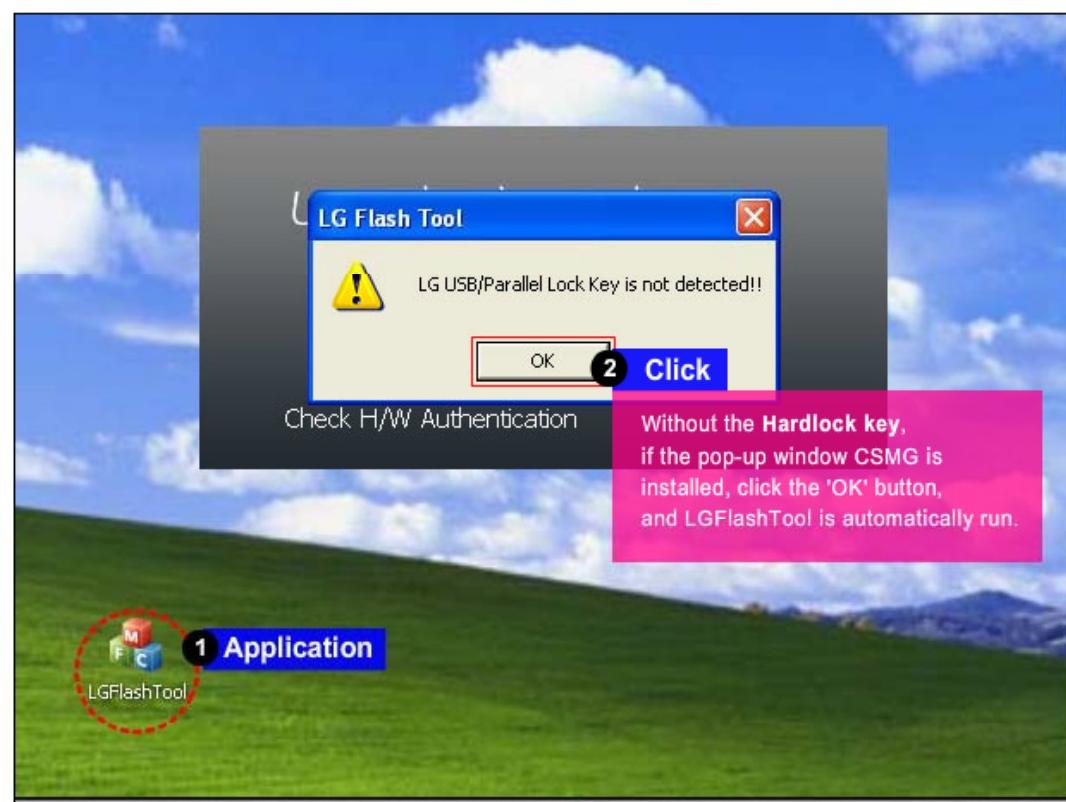
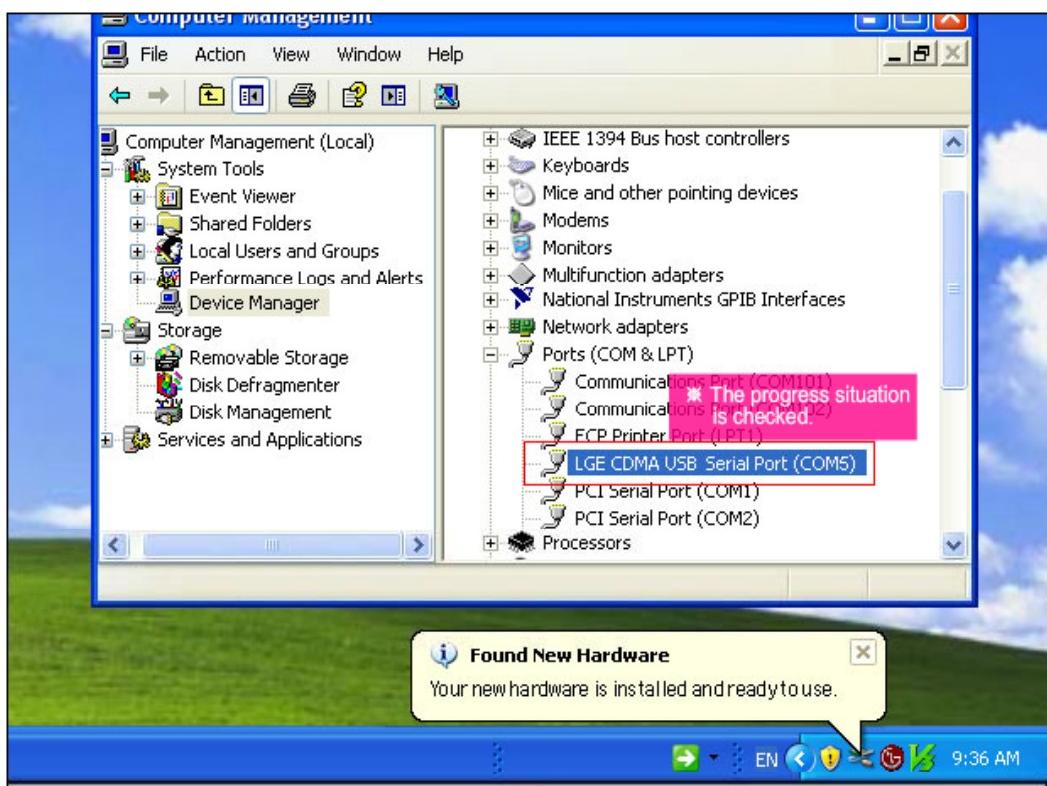
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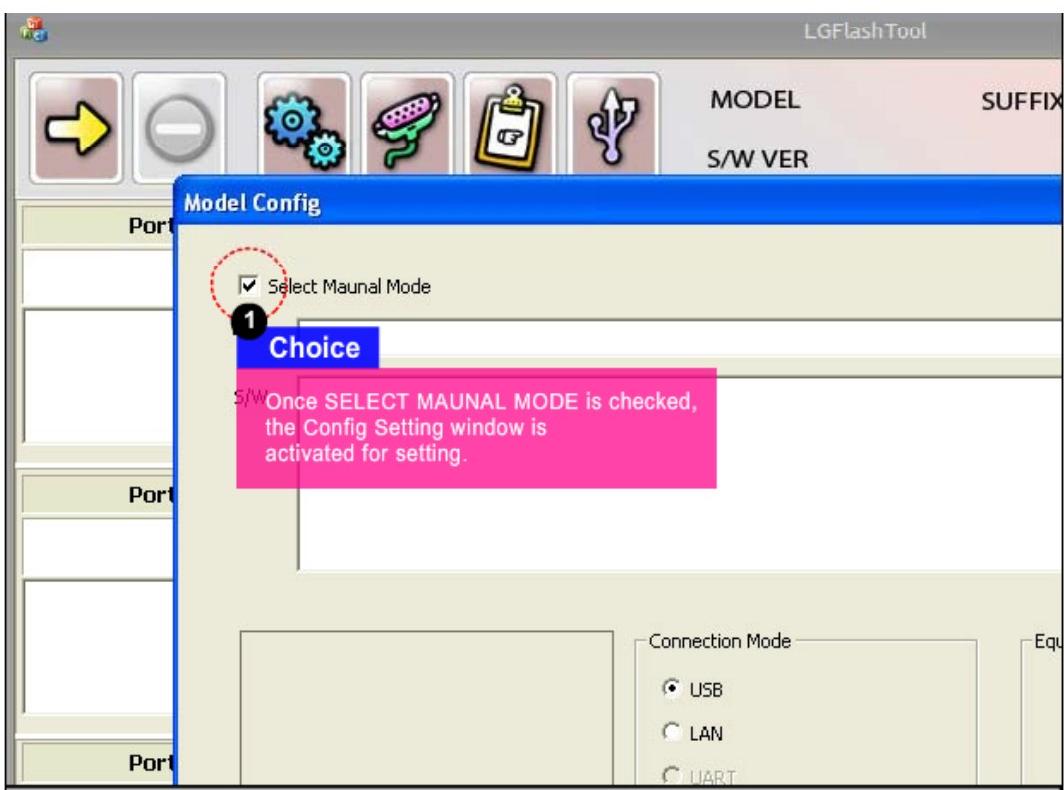
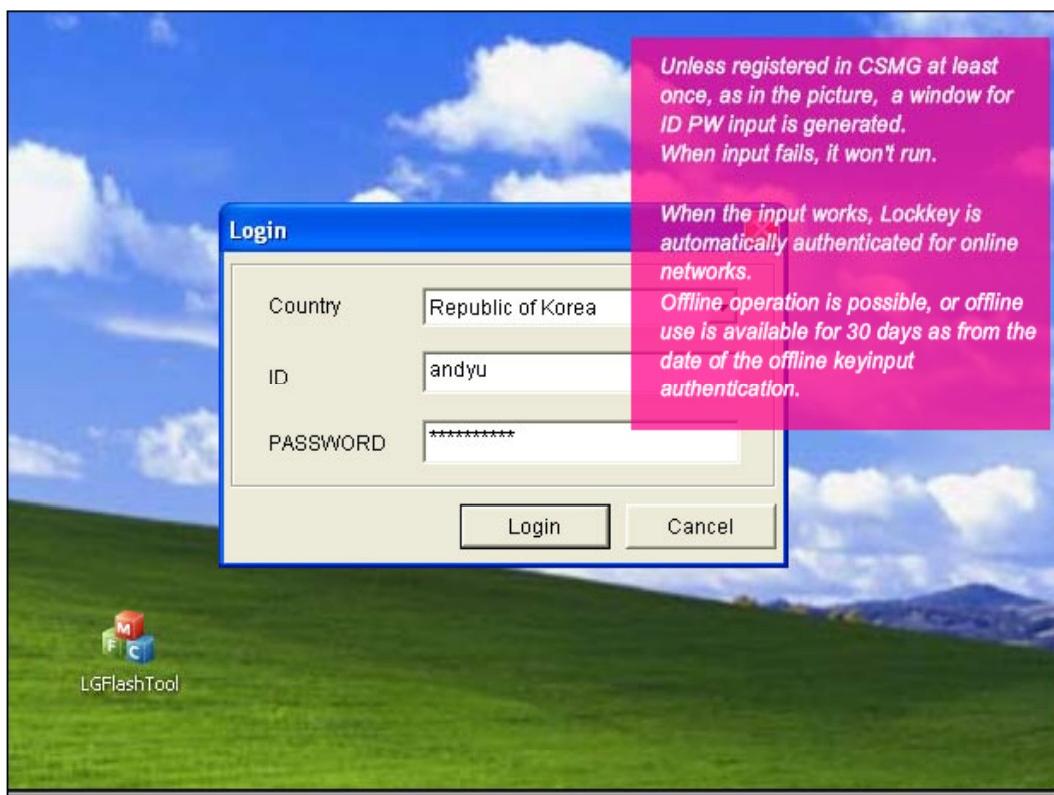
## 5. DOWNLOAD



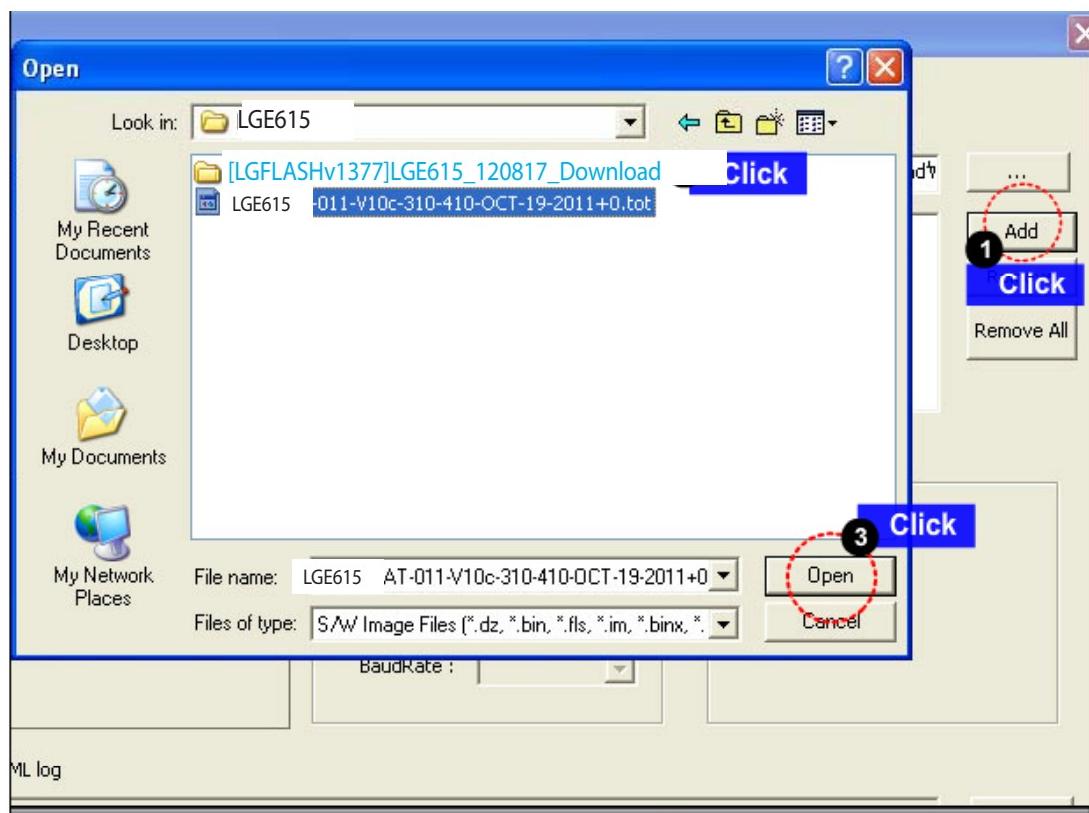
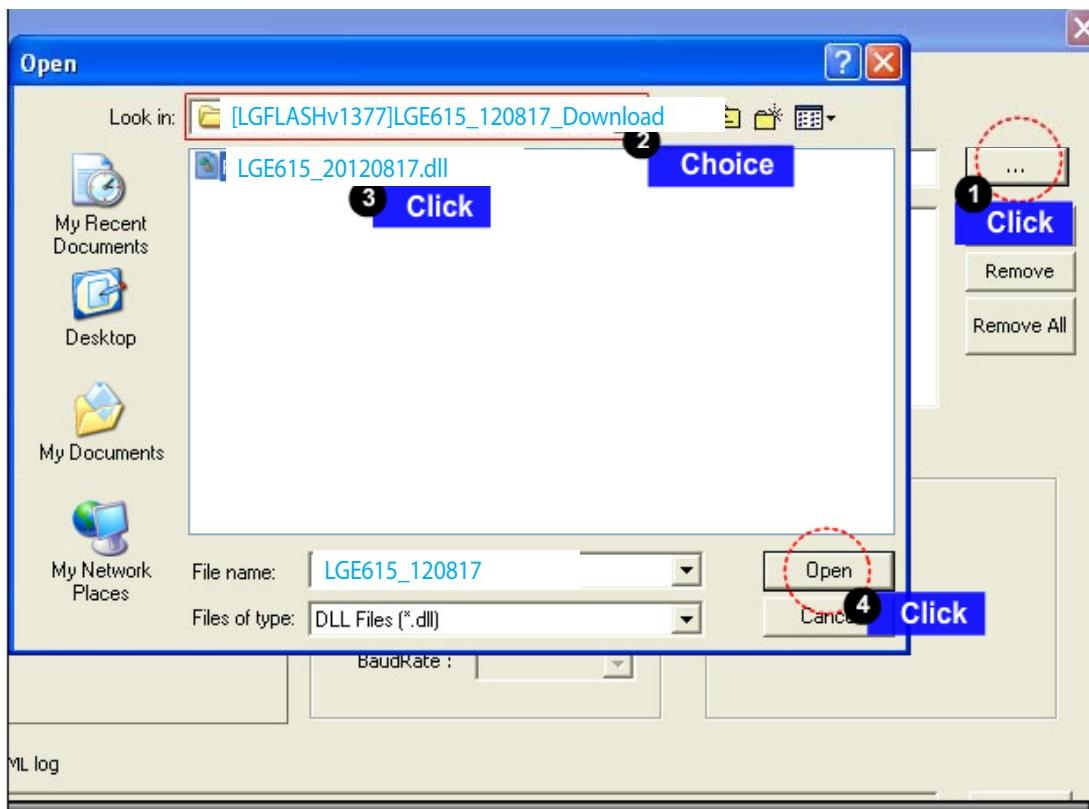
## 5. DOWNLOAD



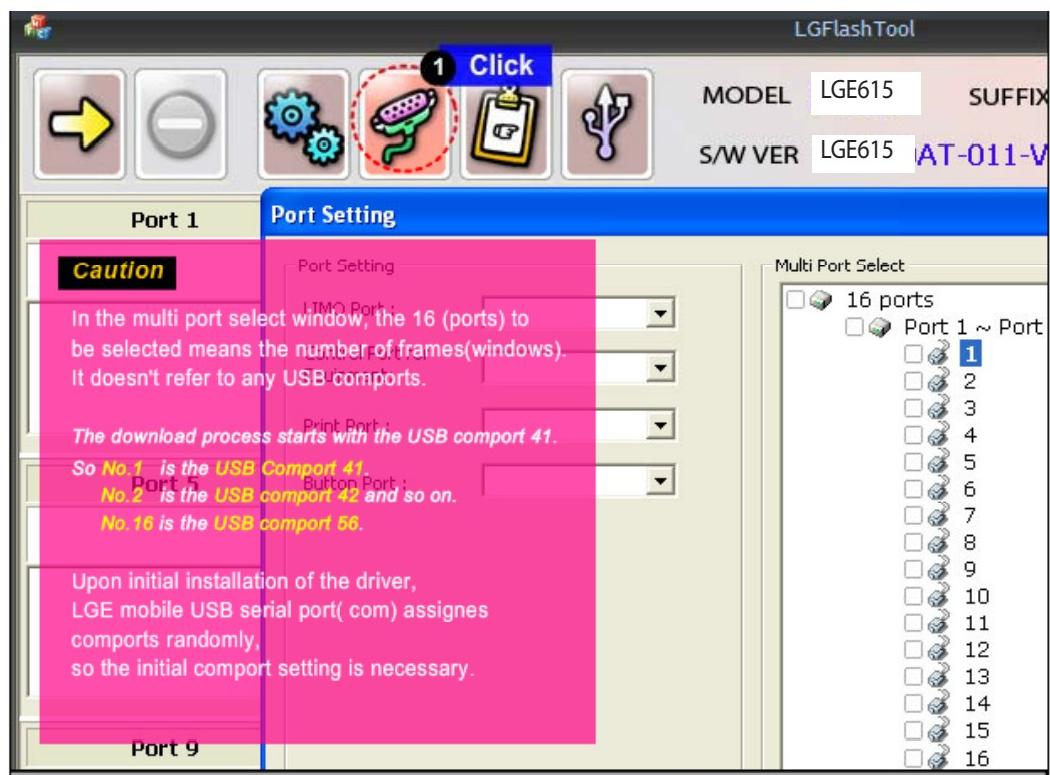
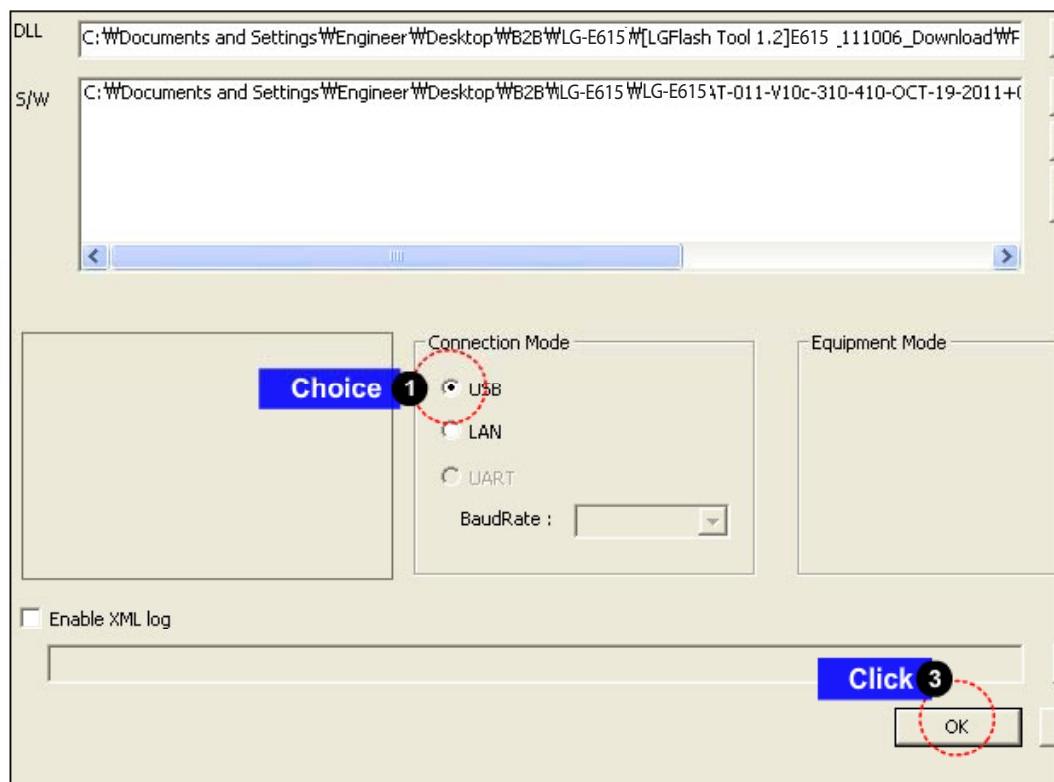
## 5. DOWNLOAD



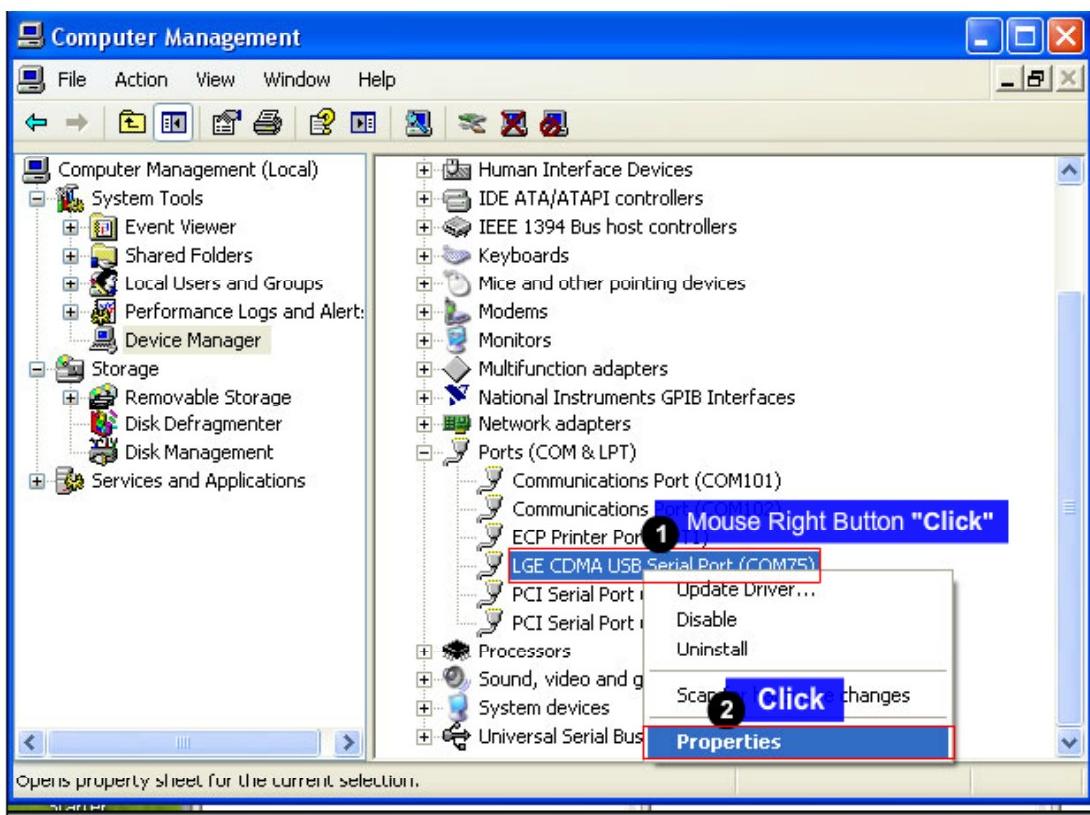
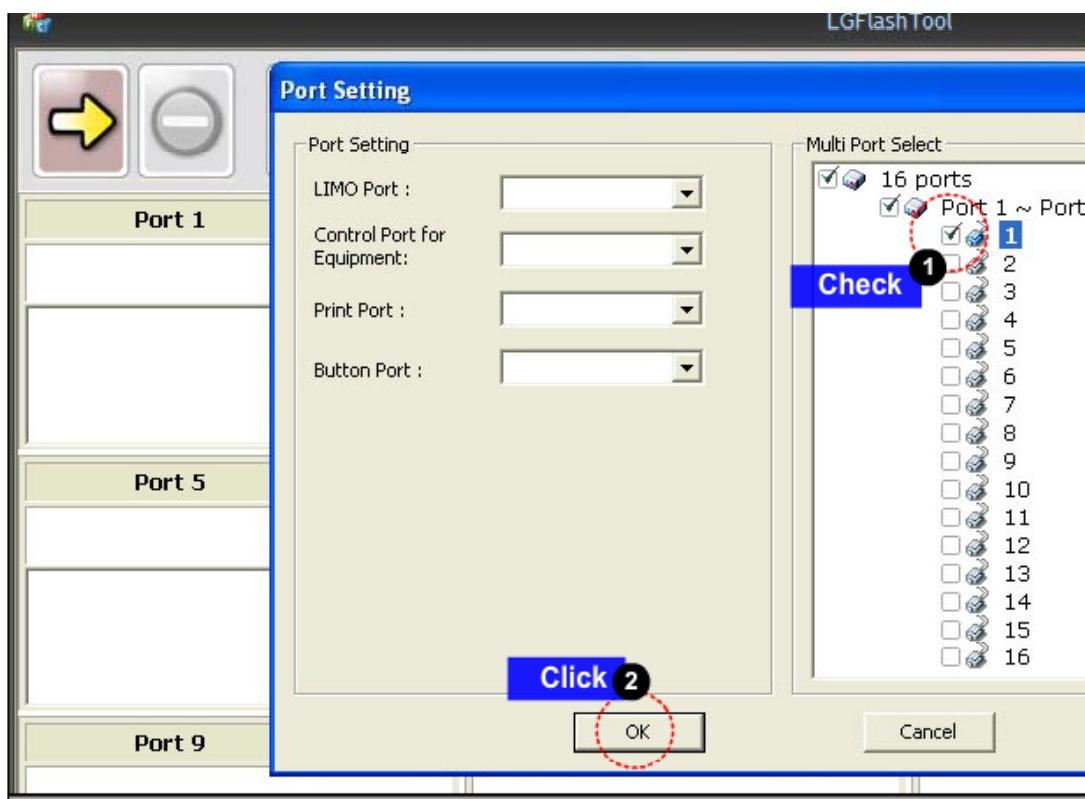
## 5. DOWNLOAD



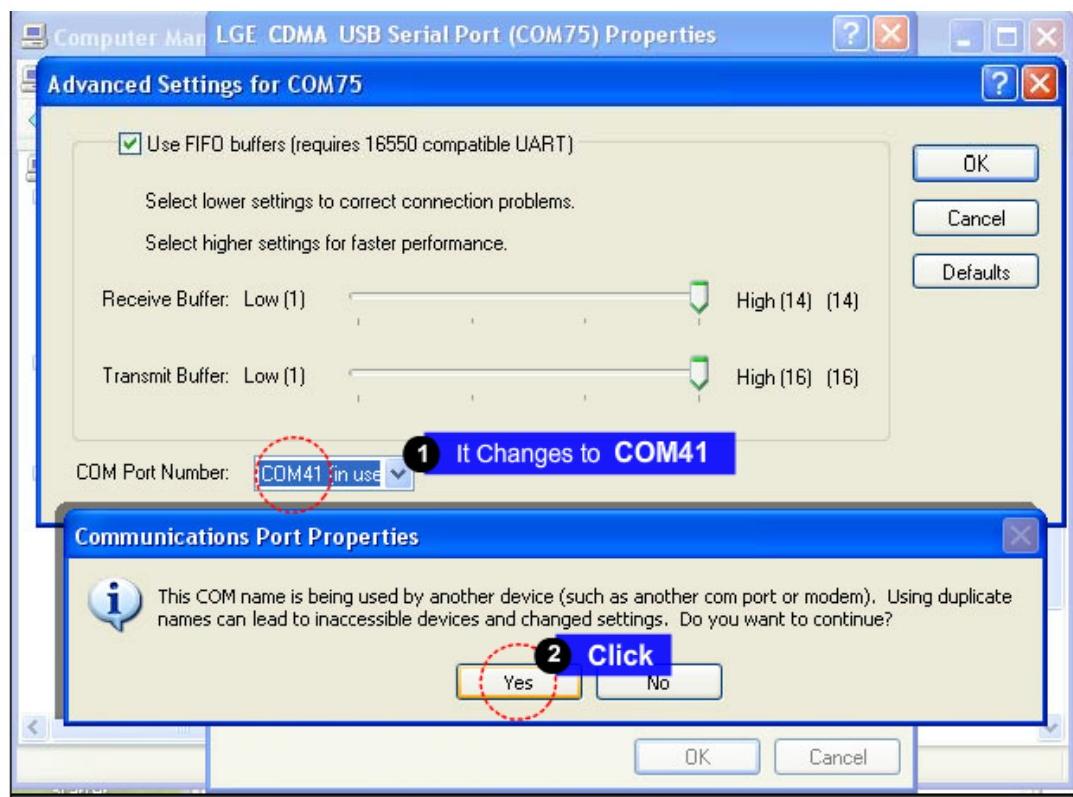
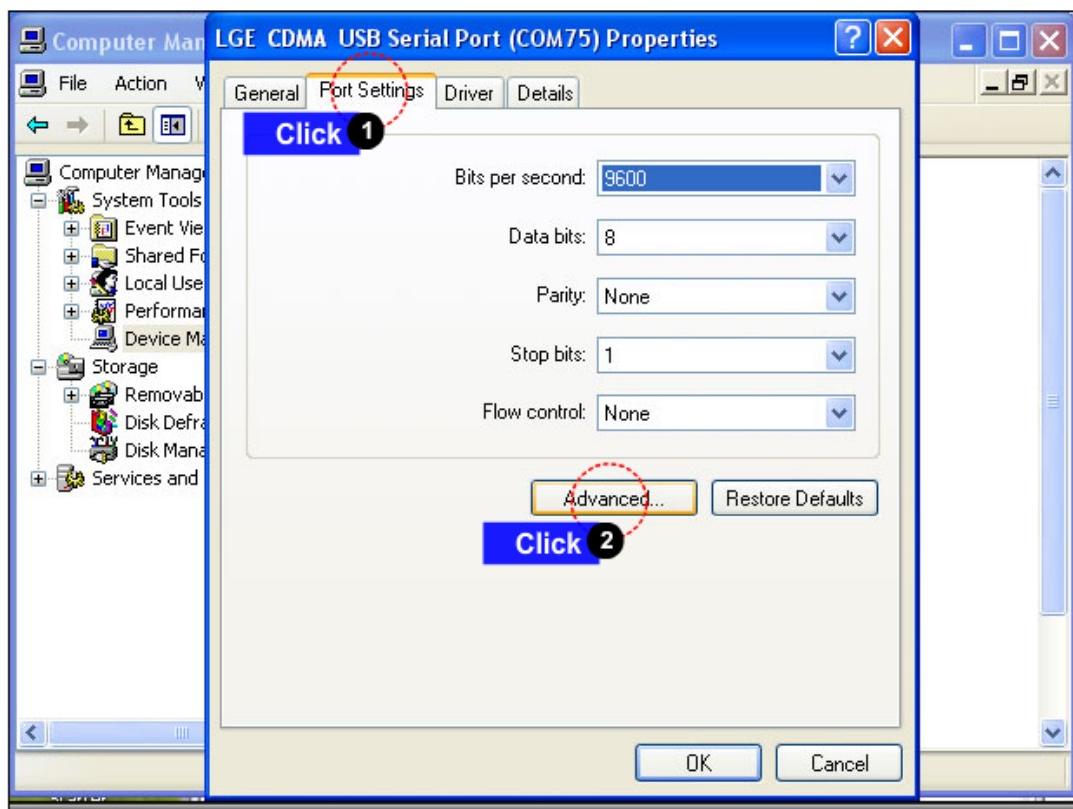
## 5. DOWNLOAD



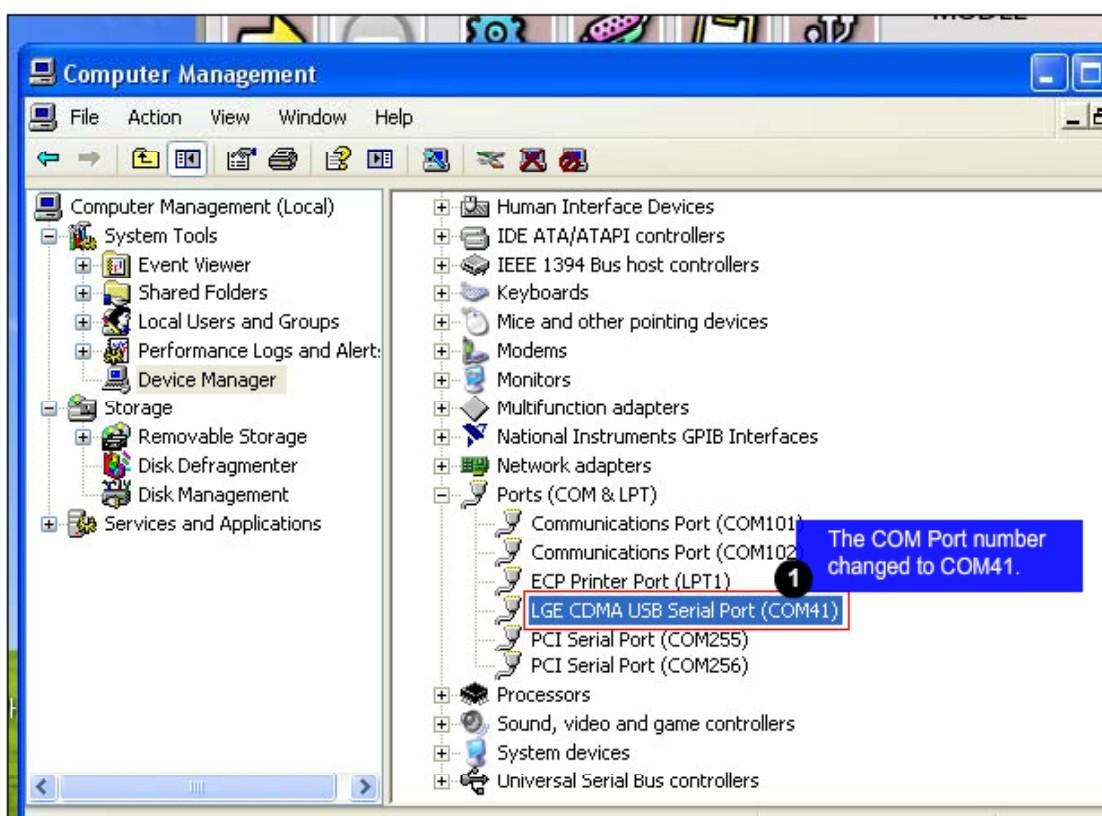
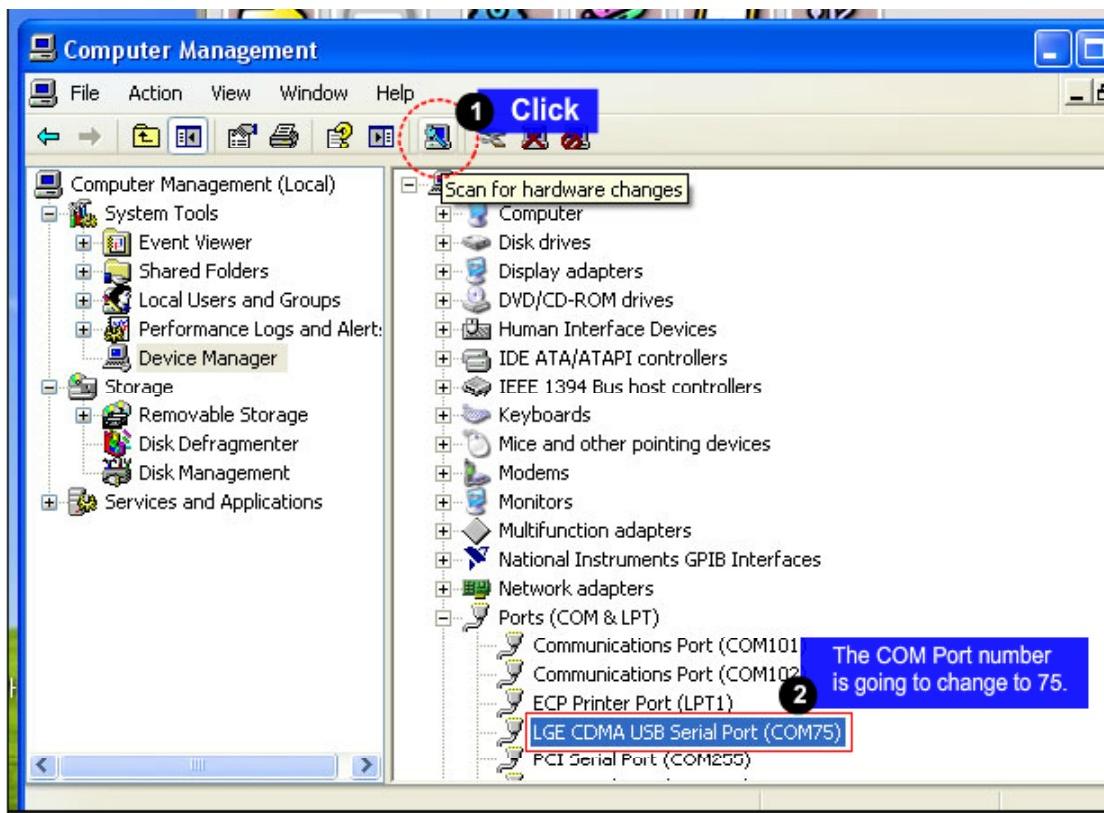
## 5. DOWNLOAD



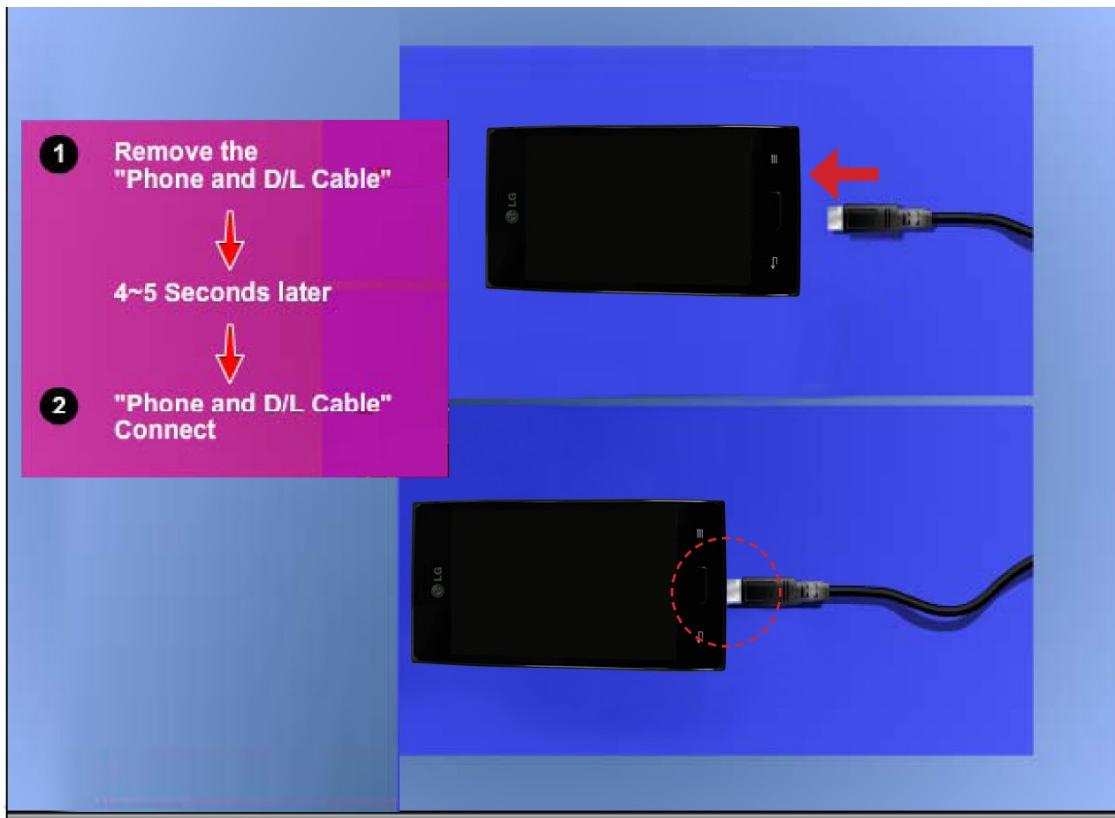
## 5. DOWNLOAD



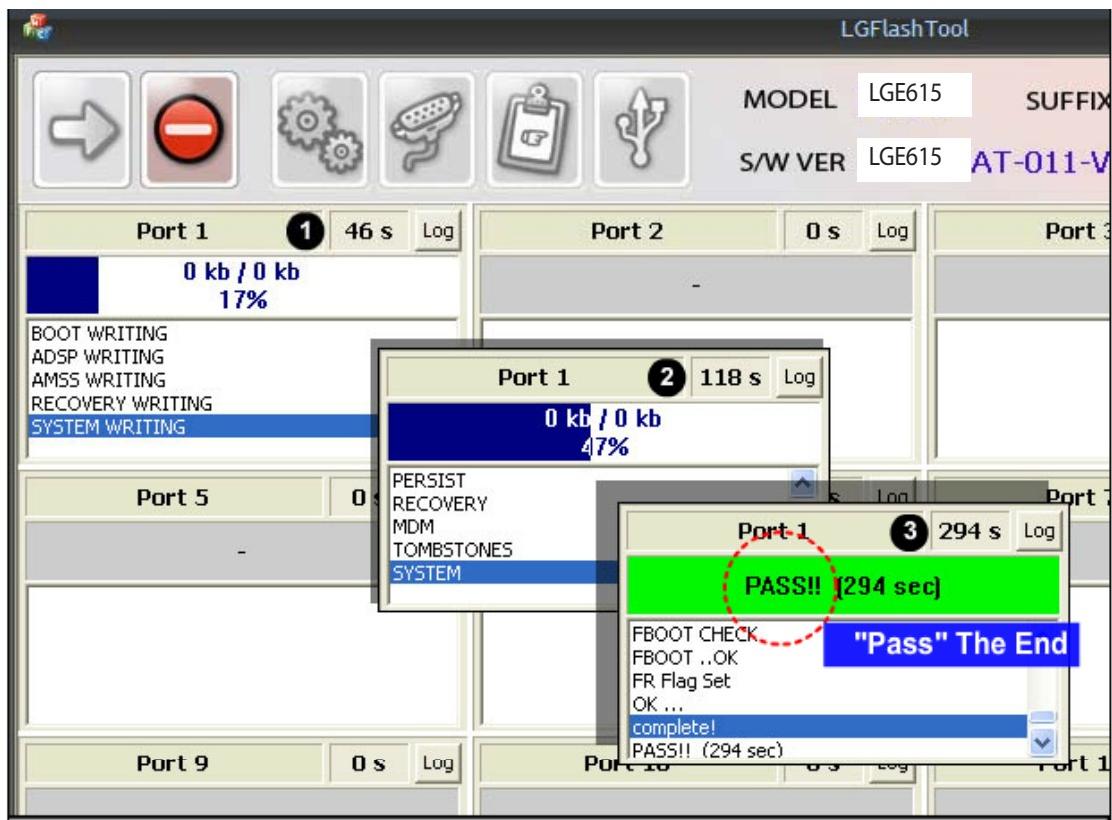
## 5. DOWNLOAD



## 5. DOWNLOAD

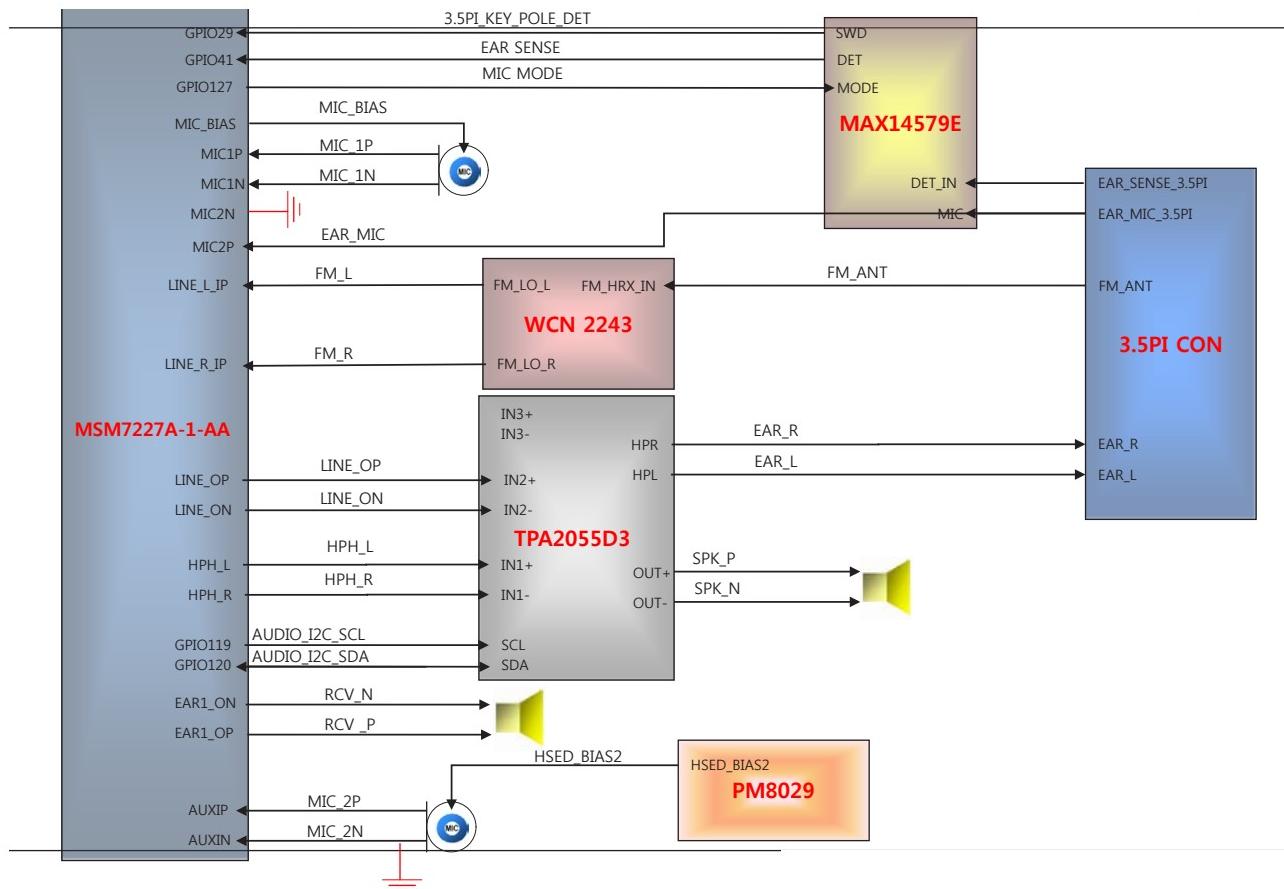


## 5. DOWNLOAD



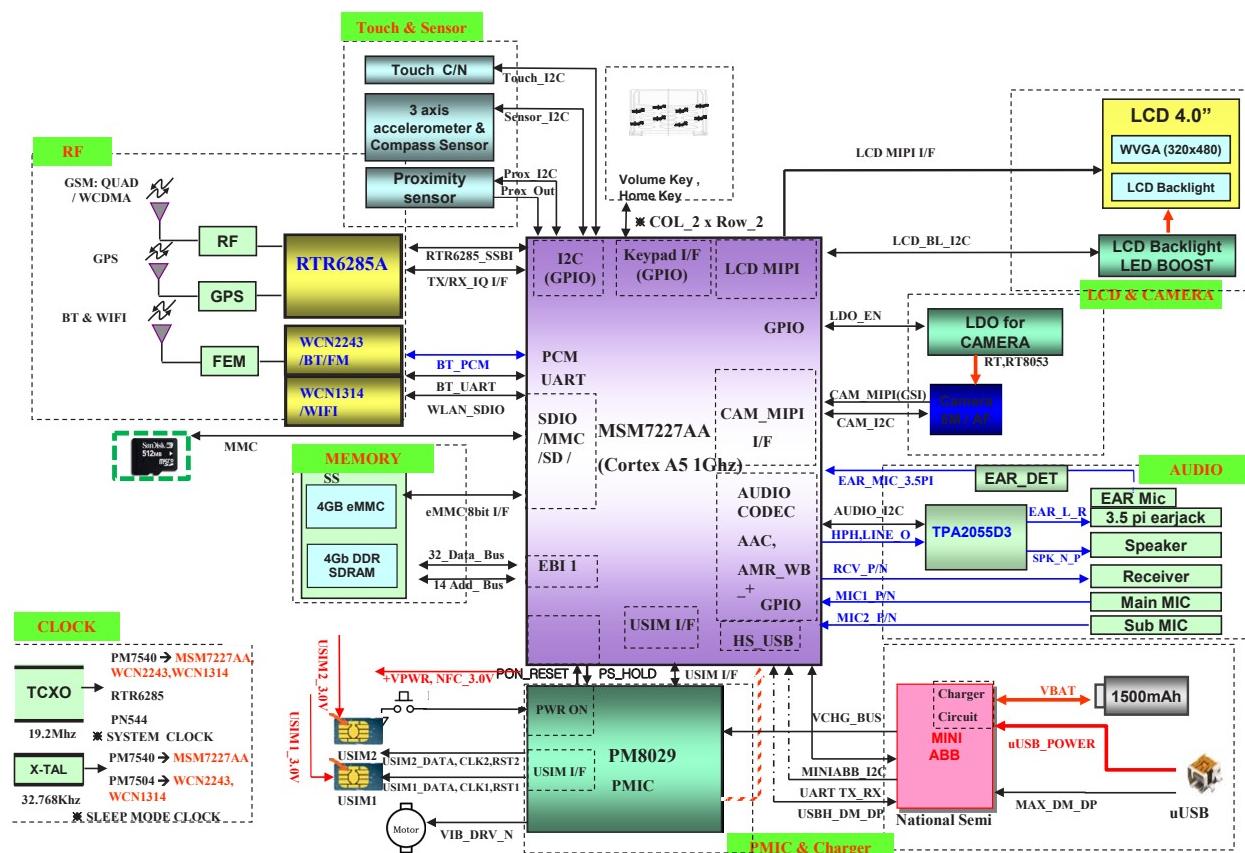
### 6. Block diagram

**LGPE615 Audio Block Diagram**



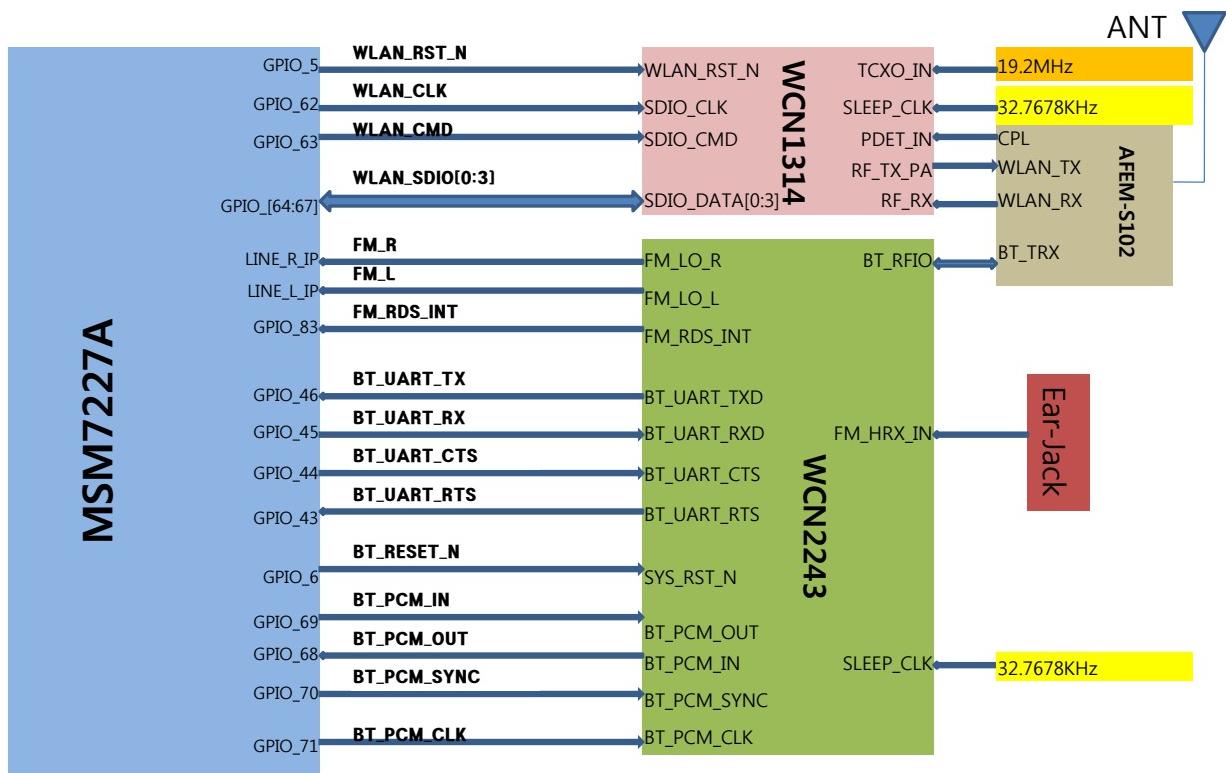
## 6. BLOCK DIAGRAM

### LGE615 Block Diagram

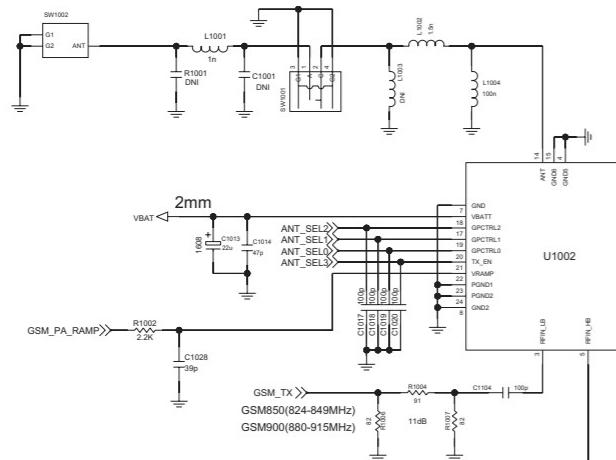


## 6. BLOCK DIAGRAM

### LGE615 BT/WLAN/FM Block Diagram



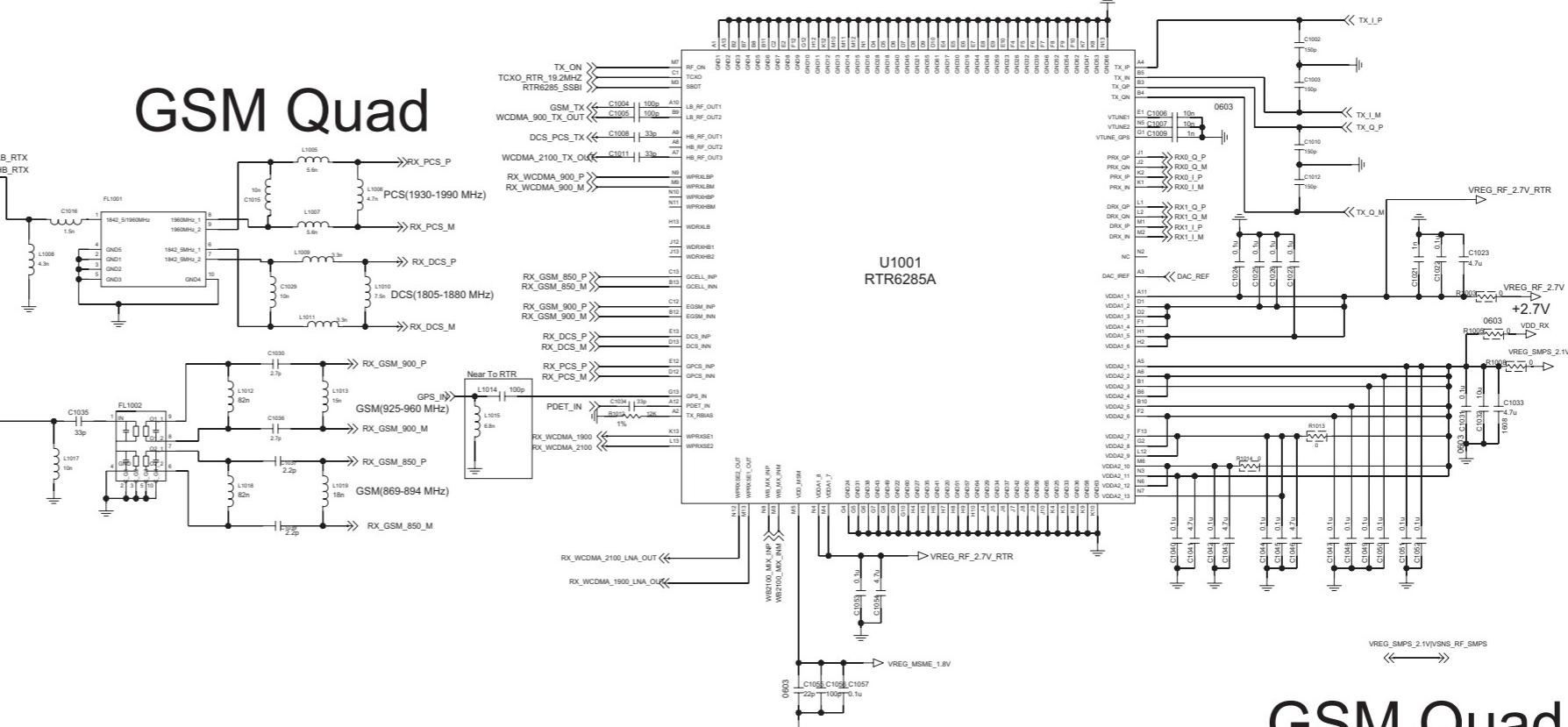
### 7. CIRCUIT DIAGRAM



ANTENNA SWITCH MODULE LOGIC

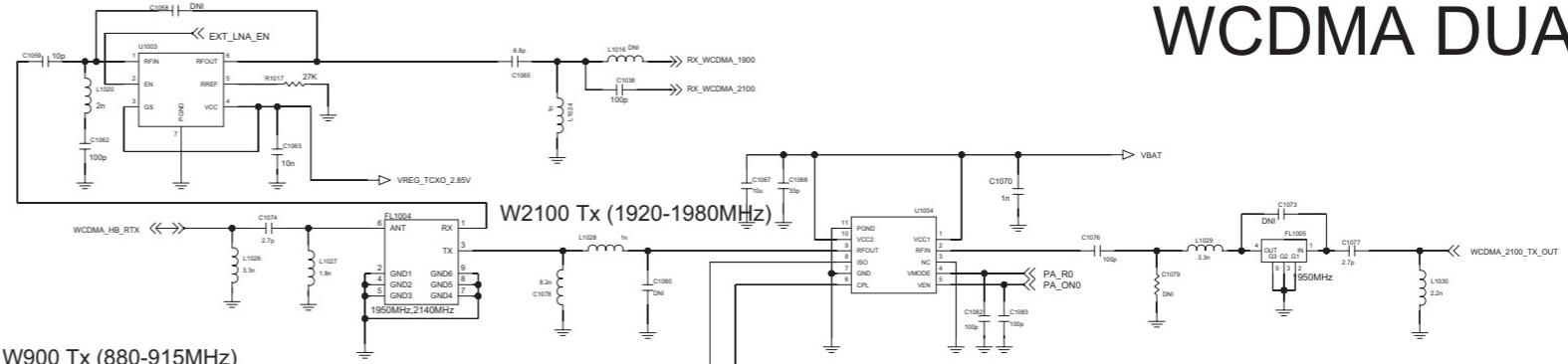
	ANT_SEL0	ANT_SEL1	ANT_SEL2	ANT_SEL3
GSM850/GSM900 TX	LOW	HIGH	LOW	HIGH
DCS1800/PCS1900 TX	HIGH	HIGH	LOW	HIGH
WB850/WB900	HIGH	LOW	LOW	LOW
WB2100	HIGH	HIGH	LOW	LOW
GSM850 RX	LOW	LOW	HIGH	LOW
EGSM RX	LOW	LOW	HIGH	LOW
DCS1800 RX	LOW	HIGH	LOW	LOW
PCS1900 RX	LOW	HIGH	LOW	LOW

### GSM Quad



GSM Quad

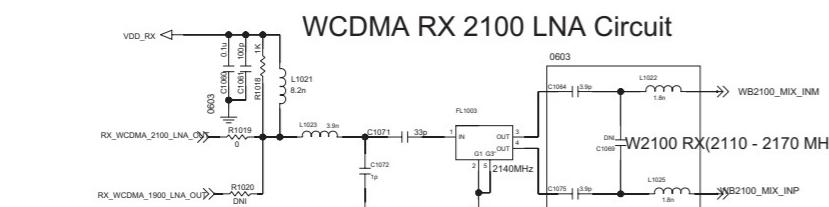
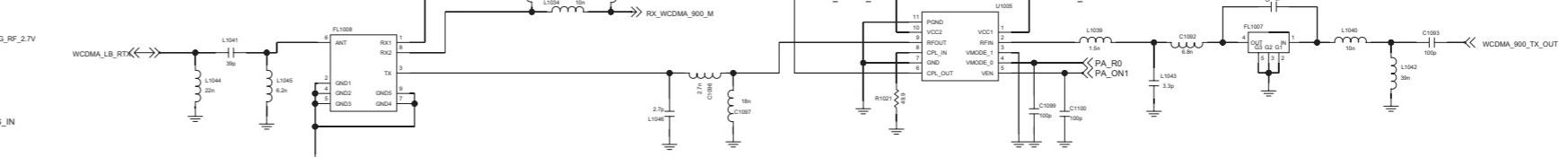
### WCDMA DUAL



W900 Tx (880-915MHz)

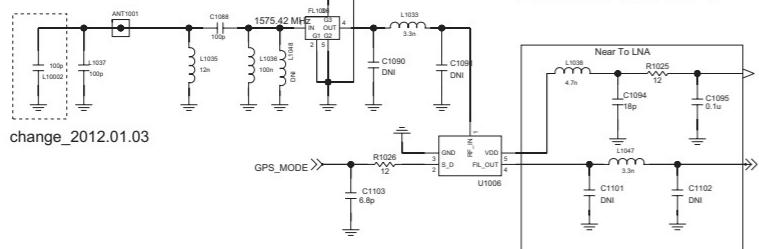
[Duplexer]  
BC 1 B7697 SDMY0003001  
BC 2 ACM-7407 SDPY0004701  
BC 5 B7671 SDDY0005101  
BC 8 B7953 SDMY0002801

### W900

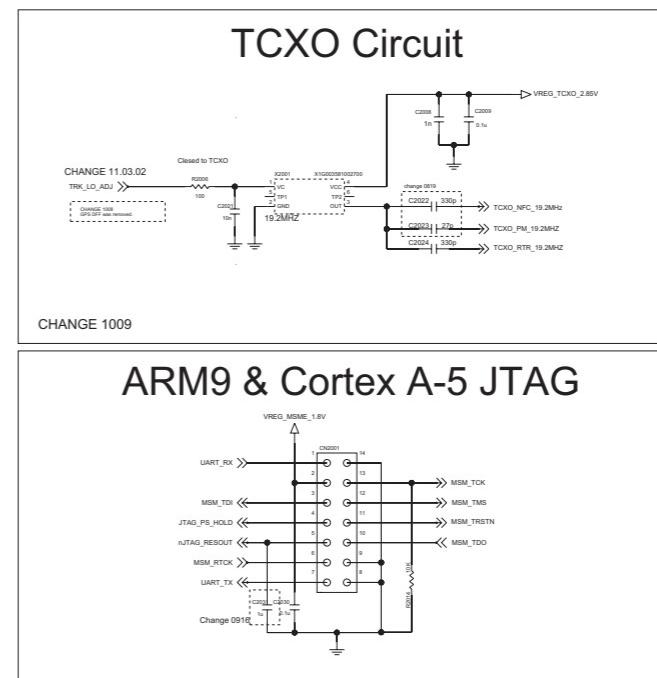
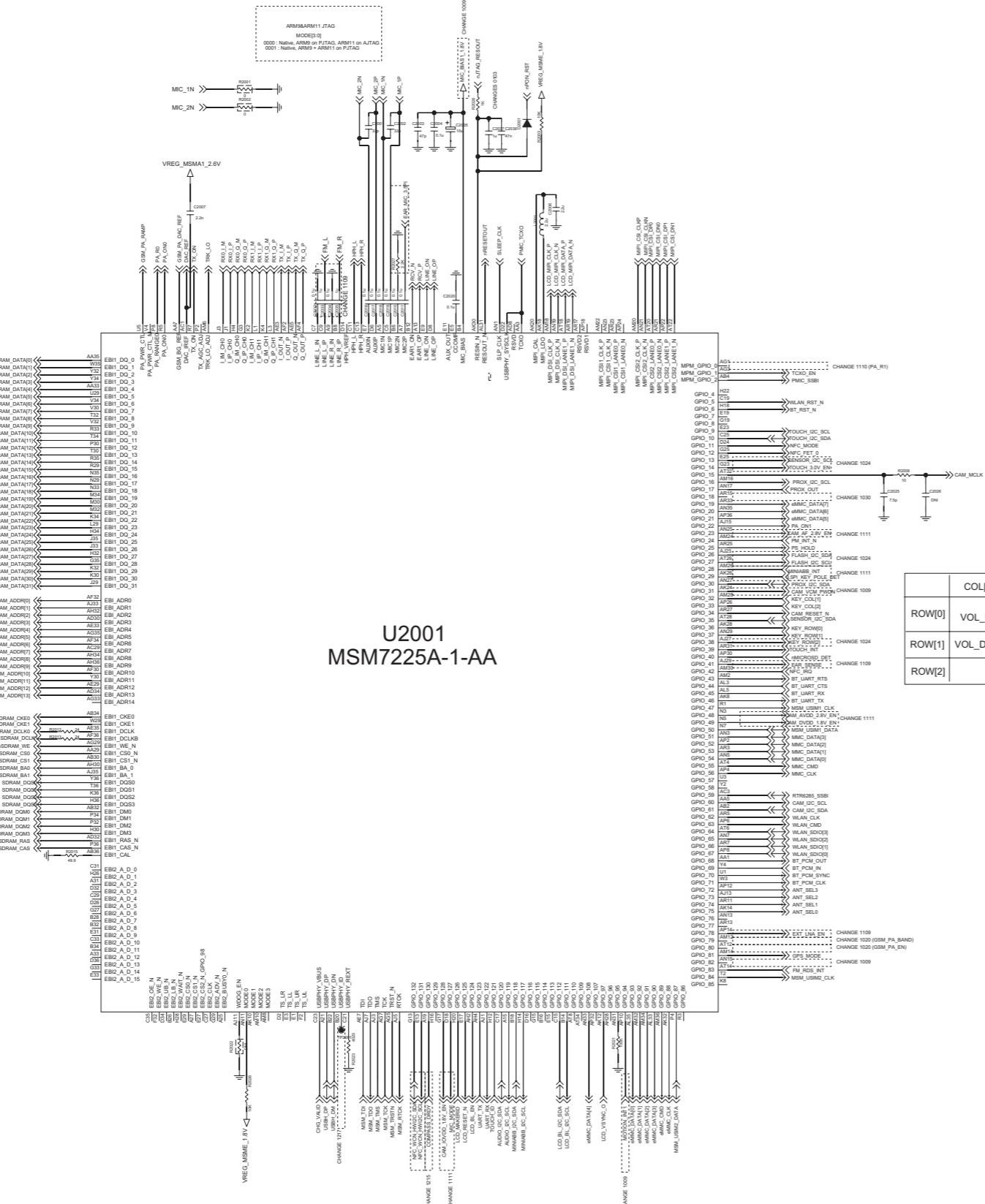


WCDMA RX 2100 LNA Circuit

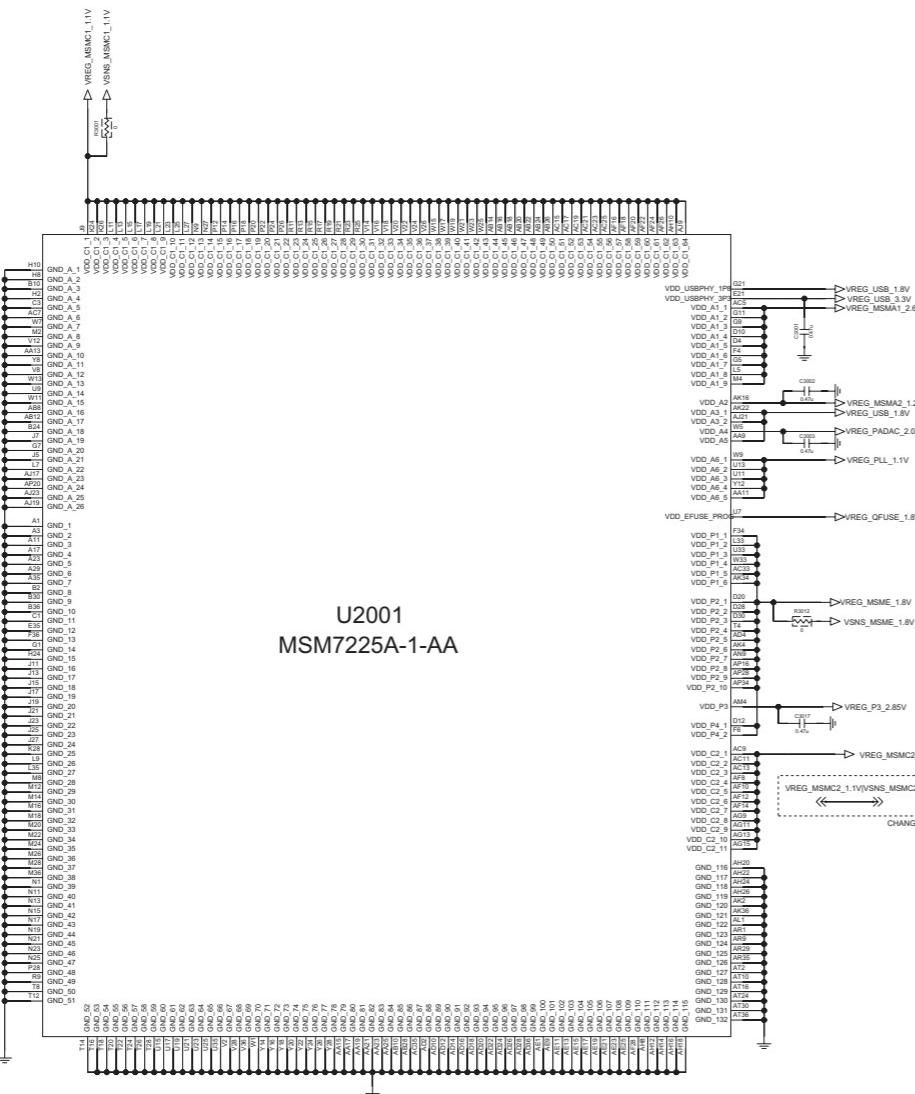
### LNA for the GPS



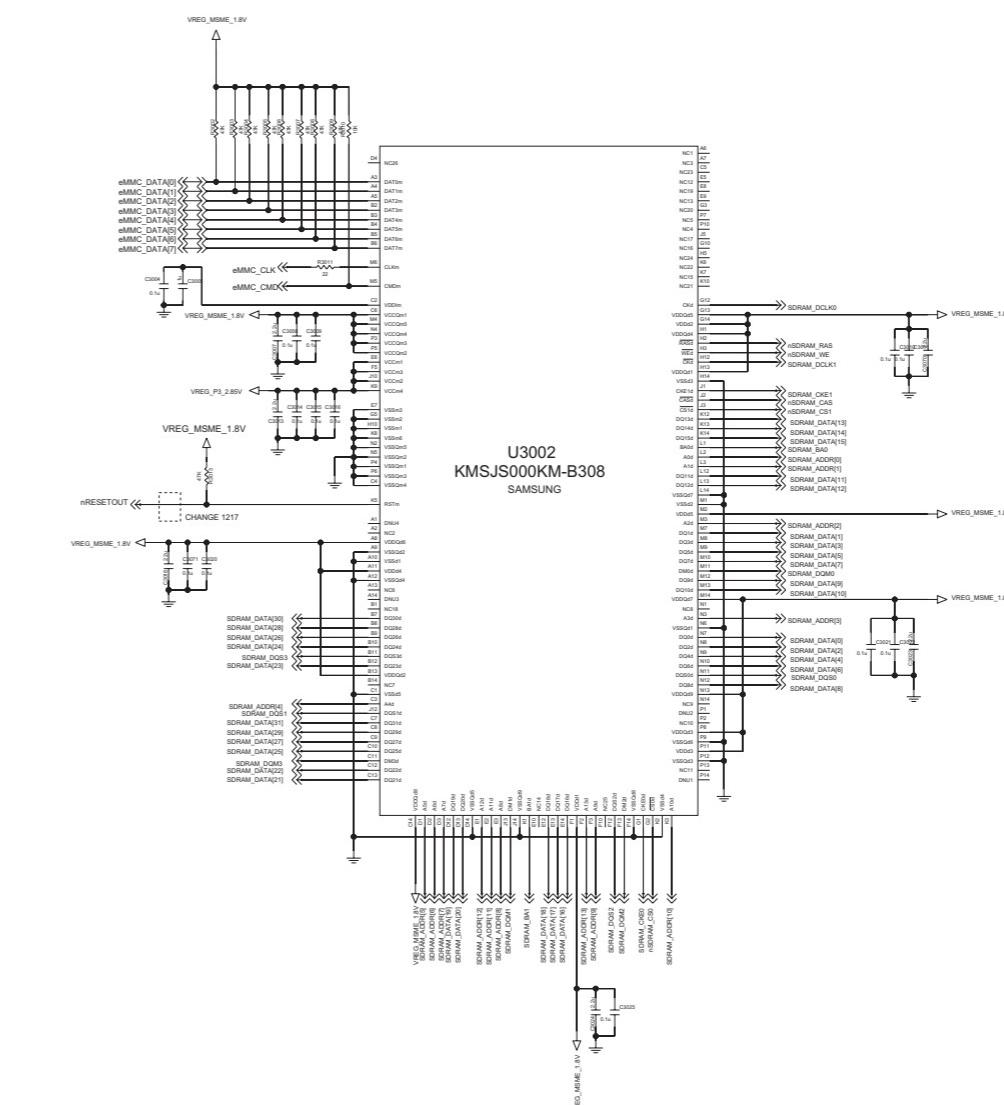
## 7. CIRCUIT DIAGRAM



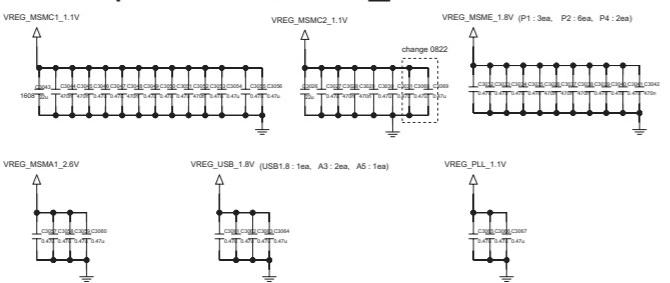
## MSM7225A\_A Power Part

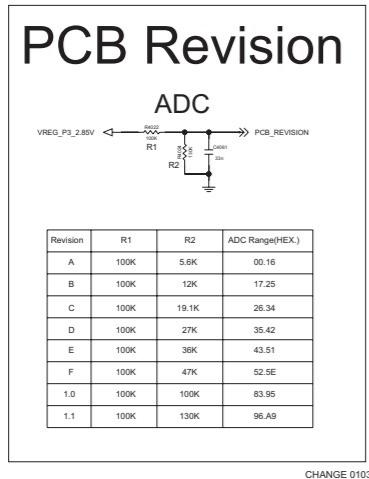


## MCP (4GB eMMC +4Gb LPDDR1)



## Cap for MSM7x25\_A Power

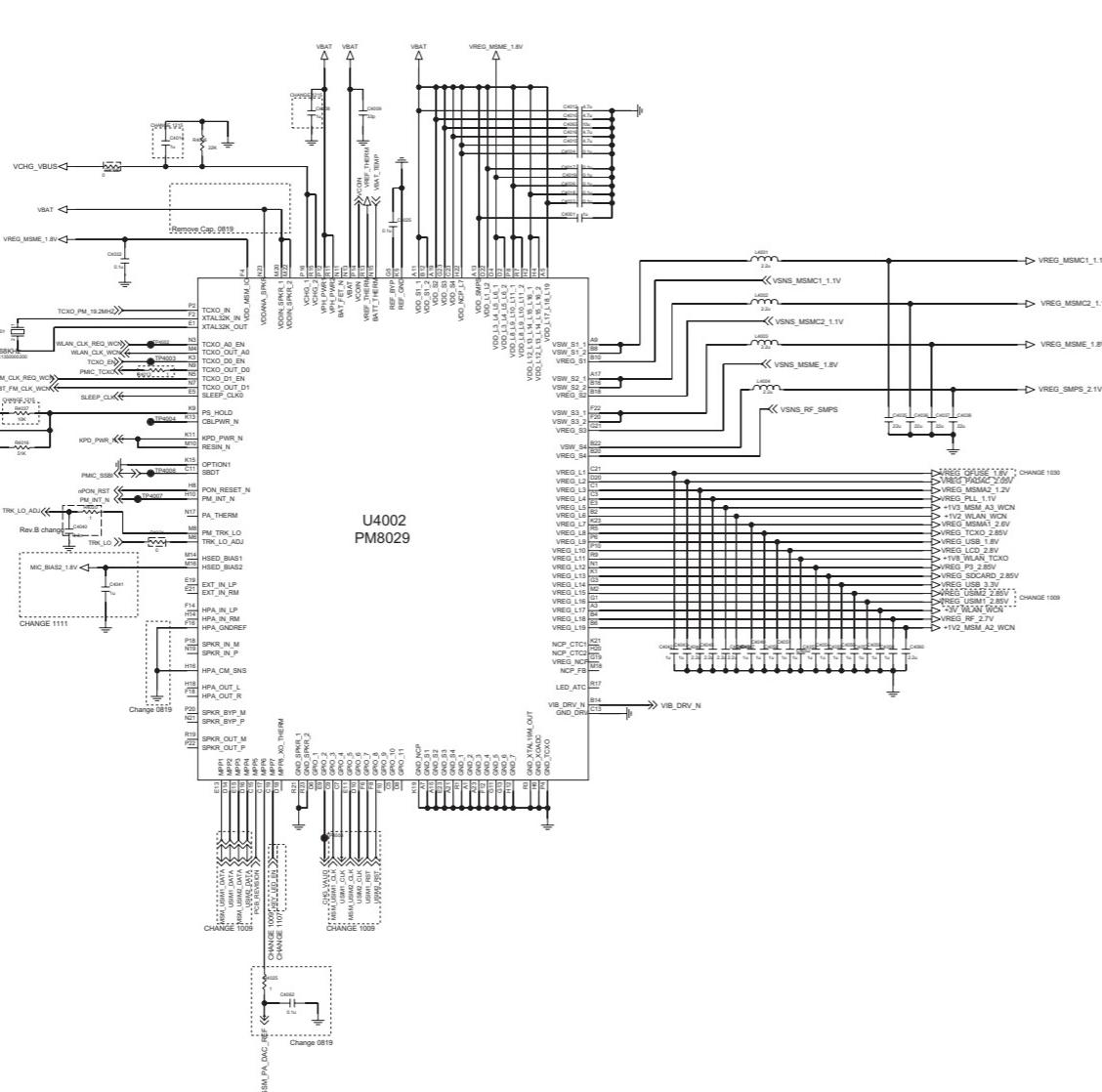
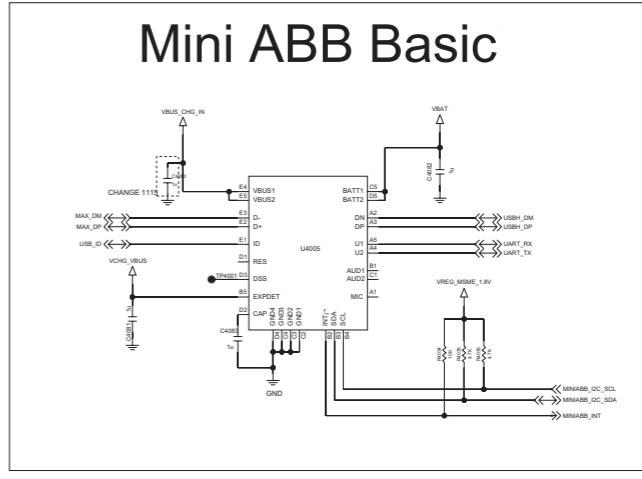
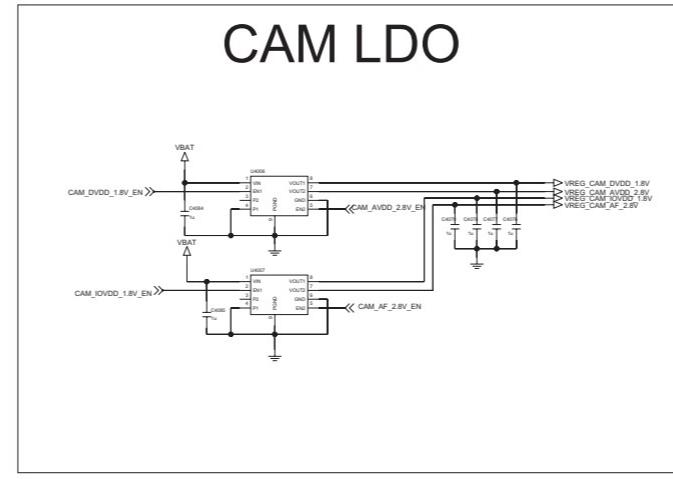




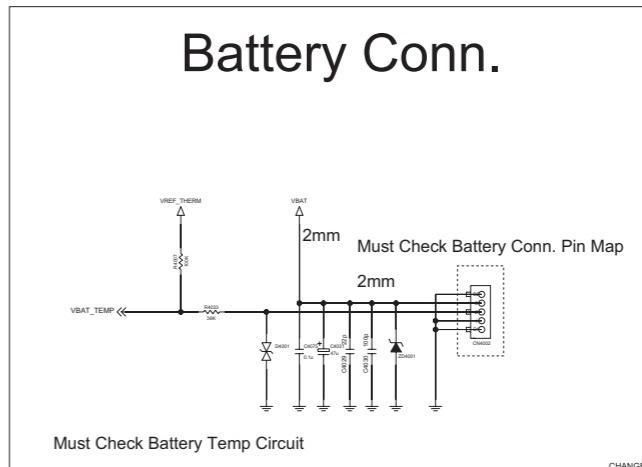
# CHECK IT!!!

---

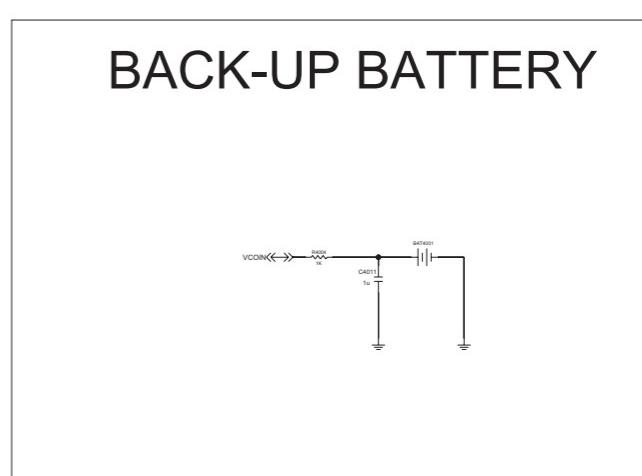
## TOUCH 3.0V LDO



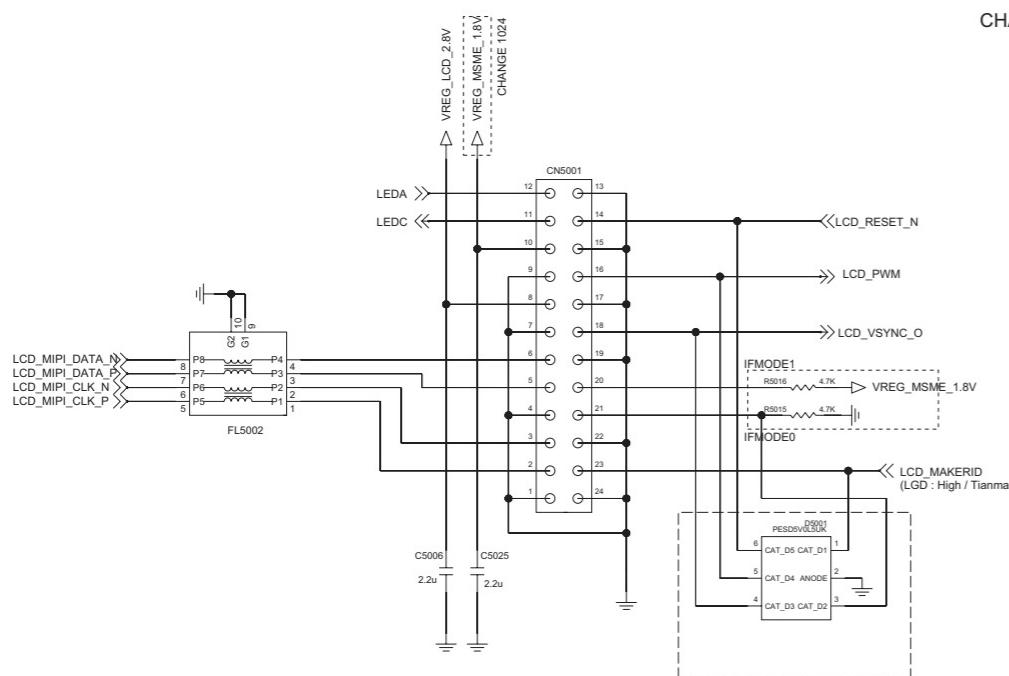
## Battery Conn.



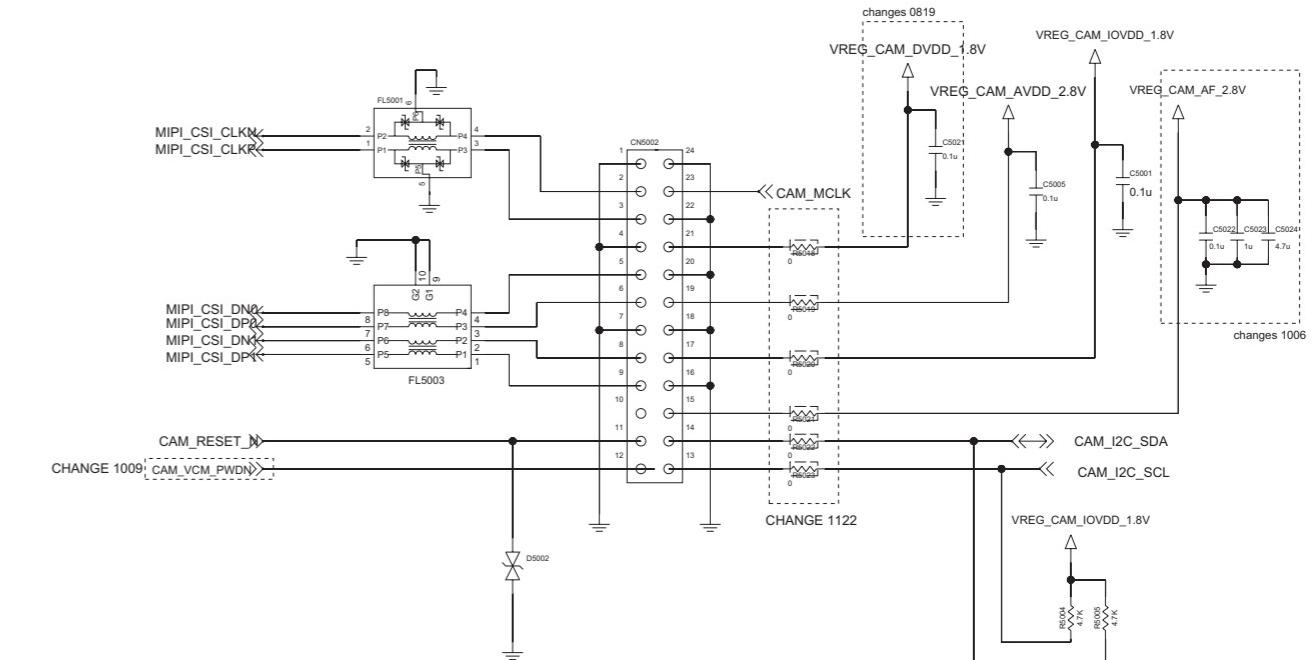
## BACK-UP BATTERY



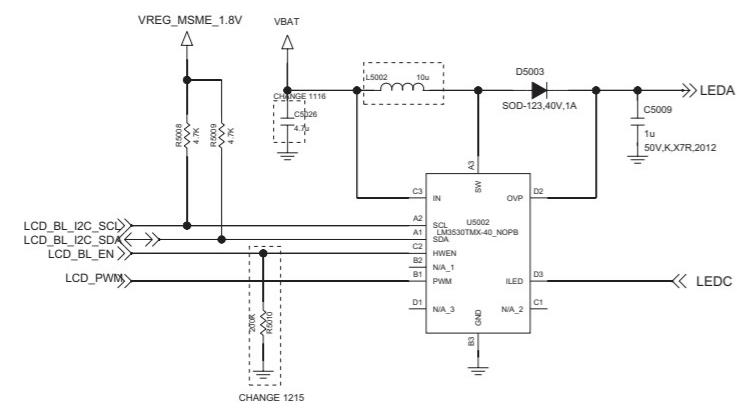
## 4.0" HVGA MIPI I/F LCD Connector



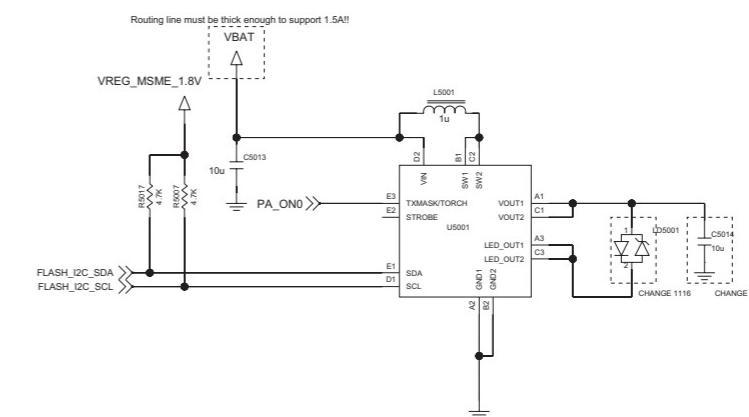
## CAMERA (5M MIPI)



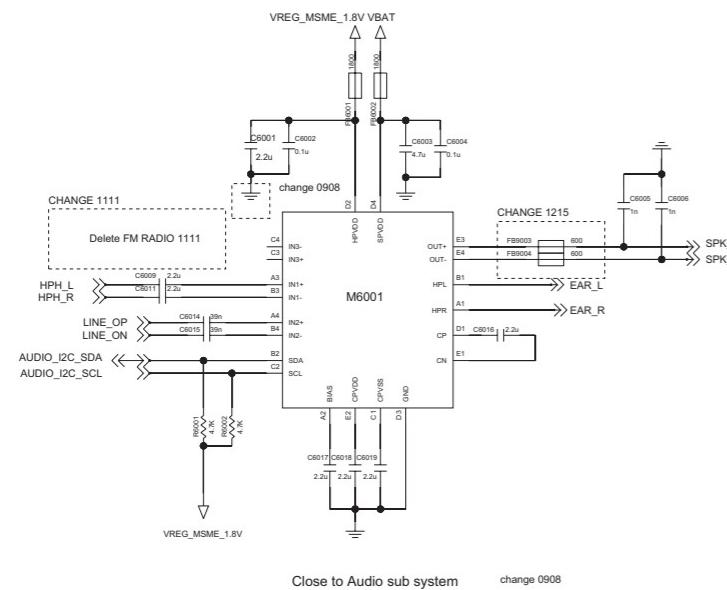
## LCD BACKLIGHT LED BOOST



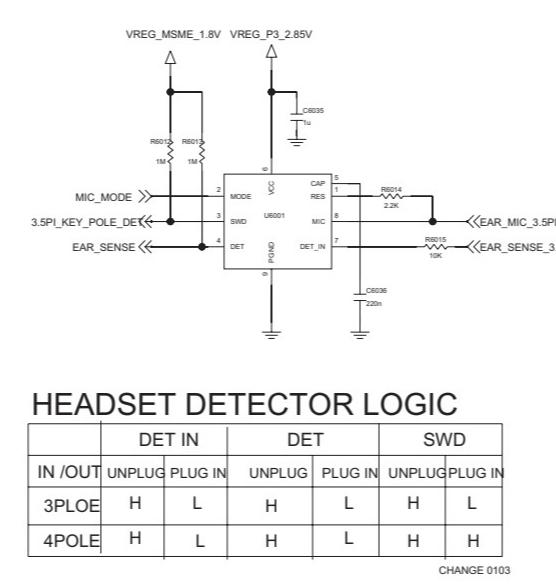
## Flash LED Driver



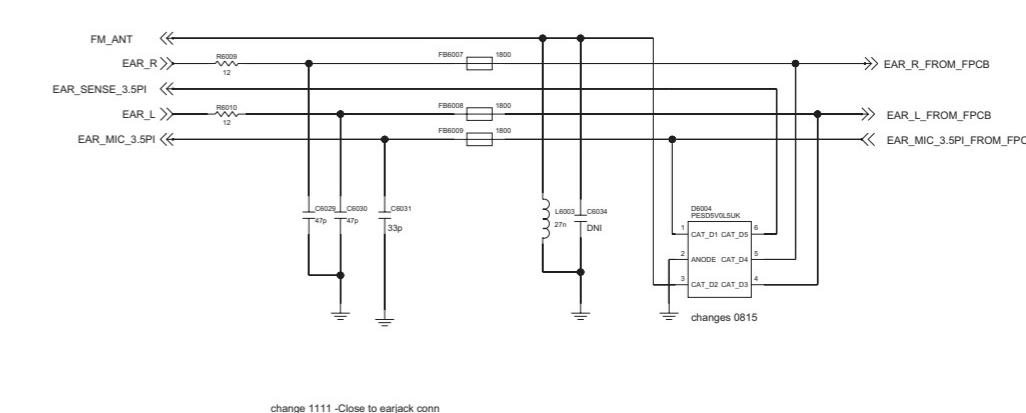
## Audio SUB SYSTEM



## HEADSET\_DETECT



## Earjack connector



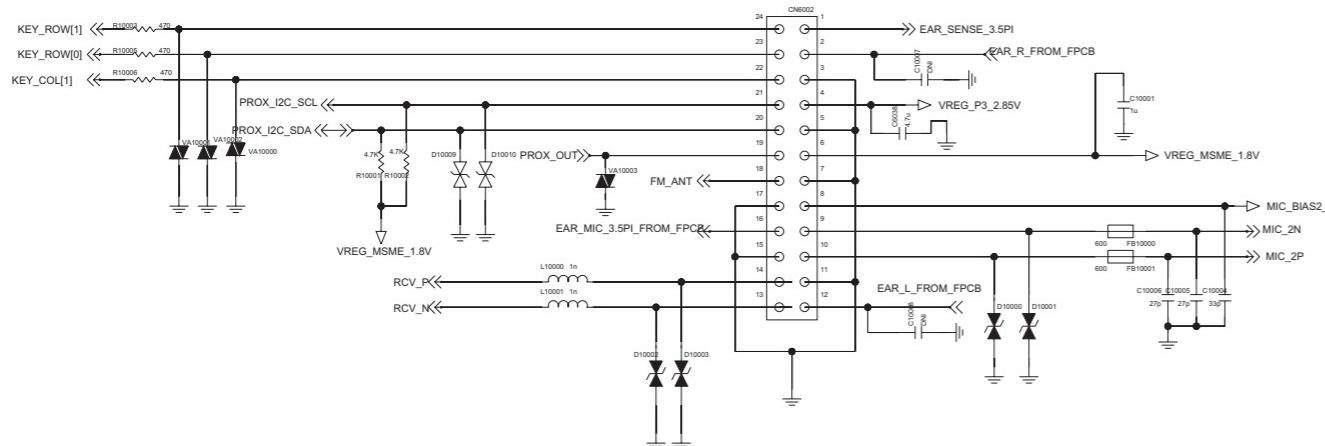
HEADSET DETECTOR LOGIC

IN / OUT	DET IN		DET		SWD	
	UNPLUG	PLUG IN	UNPLUG	PLUG IN	UNPLUG	PLUG IN
3PLOE	H	L	H	L	H	L
4POLE	H	L	H	L	H	H

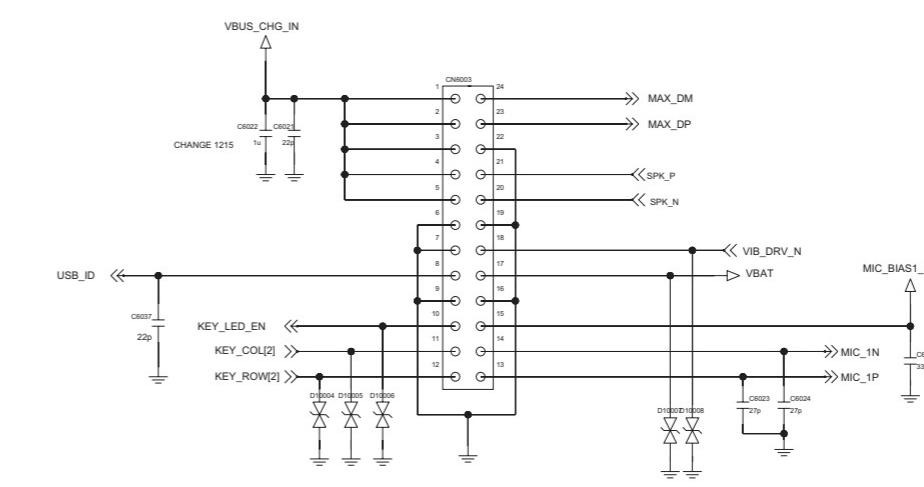
CHANGE 0103

change 1111 -Close to earjack conn

## FPCB\_EARJACK Connector

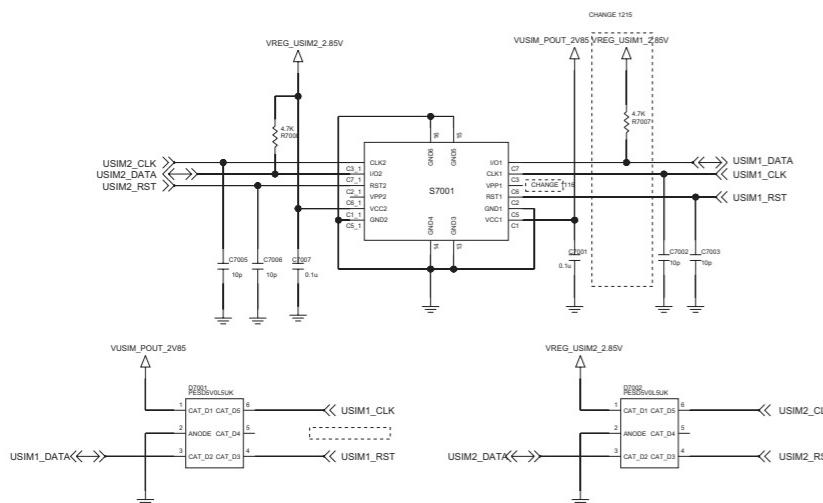


## FPCB\_KEY Connector

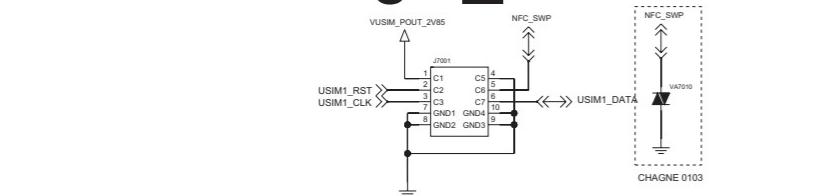


CHANGE 1215

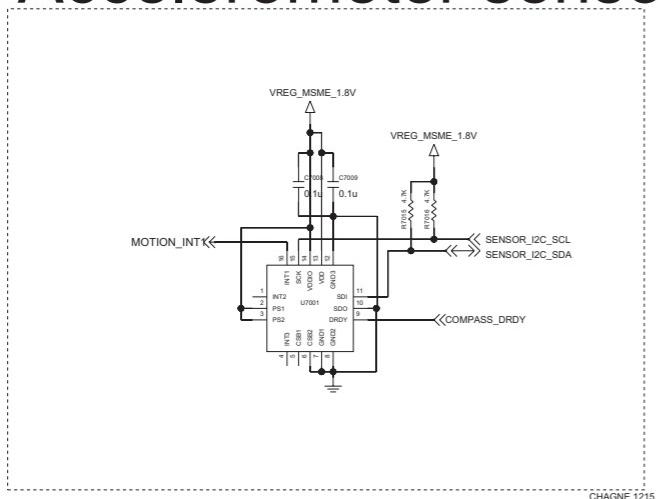
## USIM Socket Dual\_SIM



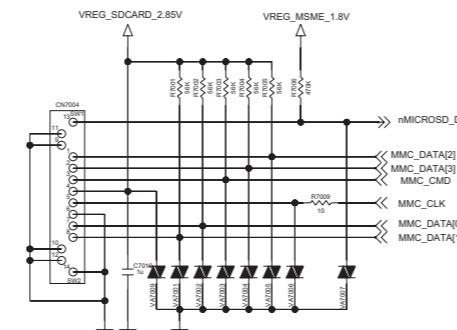
## Single\_SIM



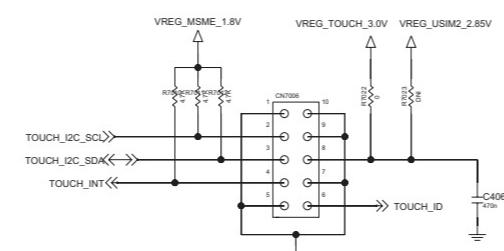
## Compass + Accelerometer sensor



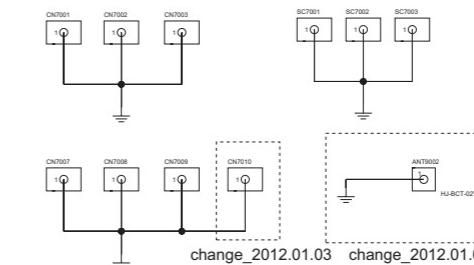
## MICRO-SD



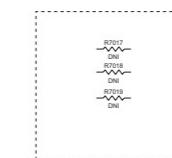
## Touch



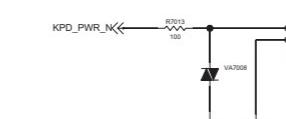
## SHIELD CAN CLIP



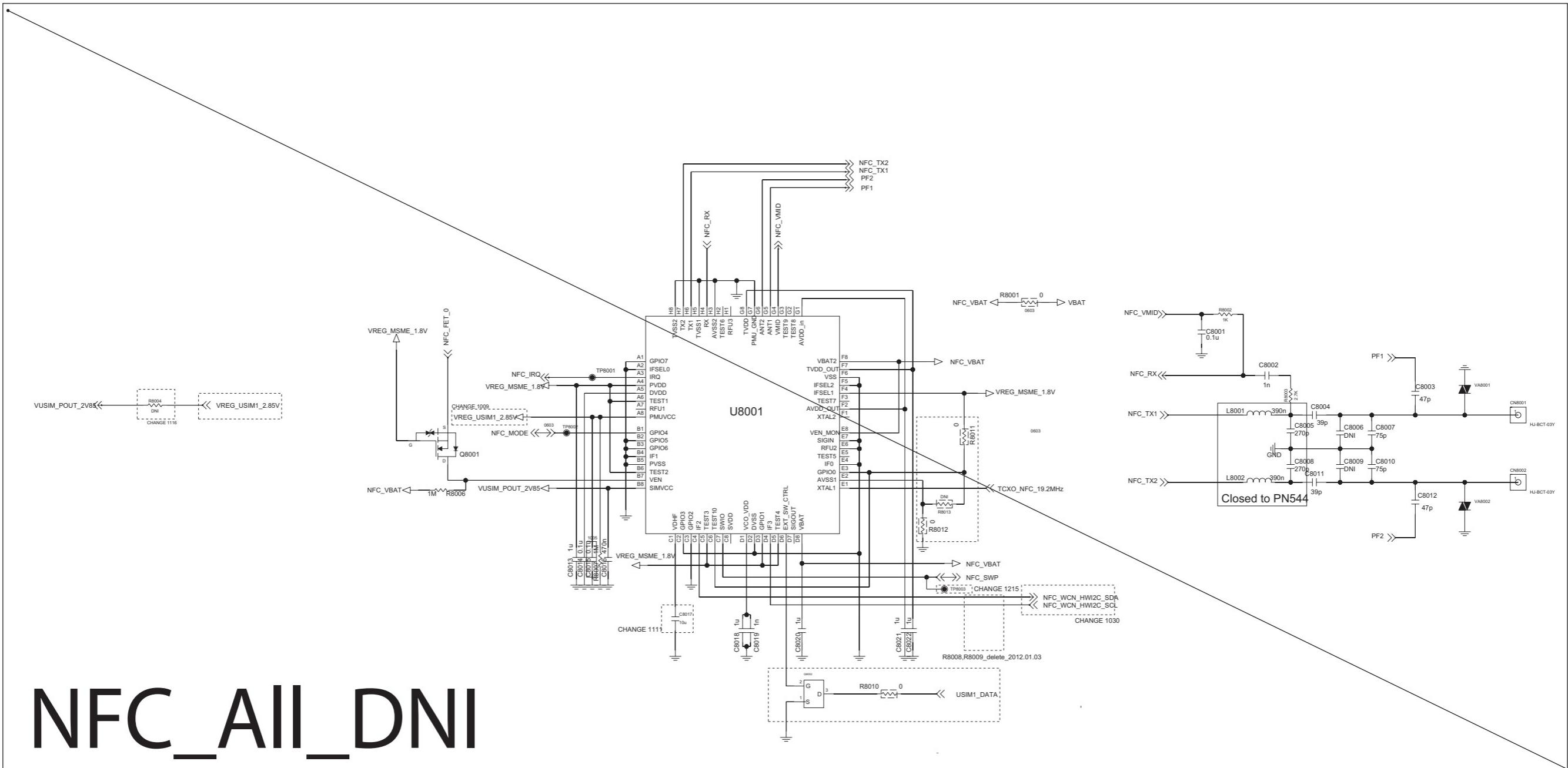
## RF Band-check



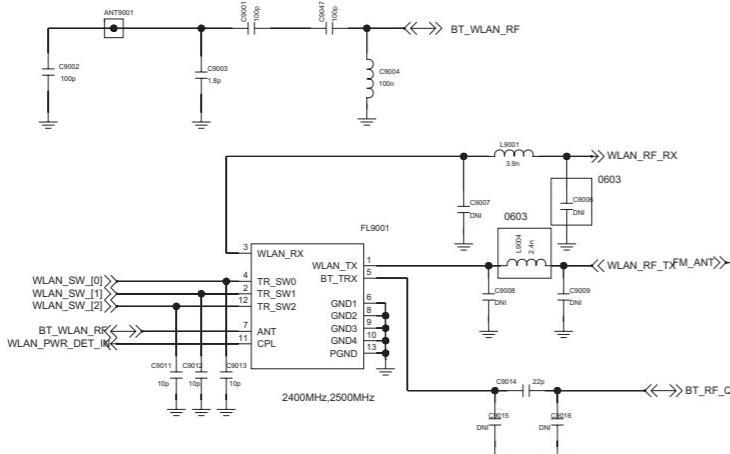
## FPCB\_POWERKEY



# NFC



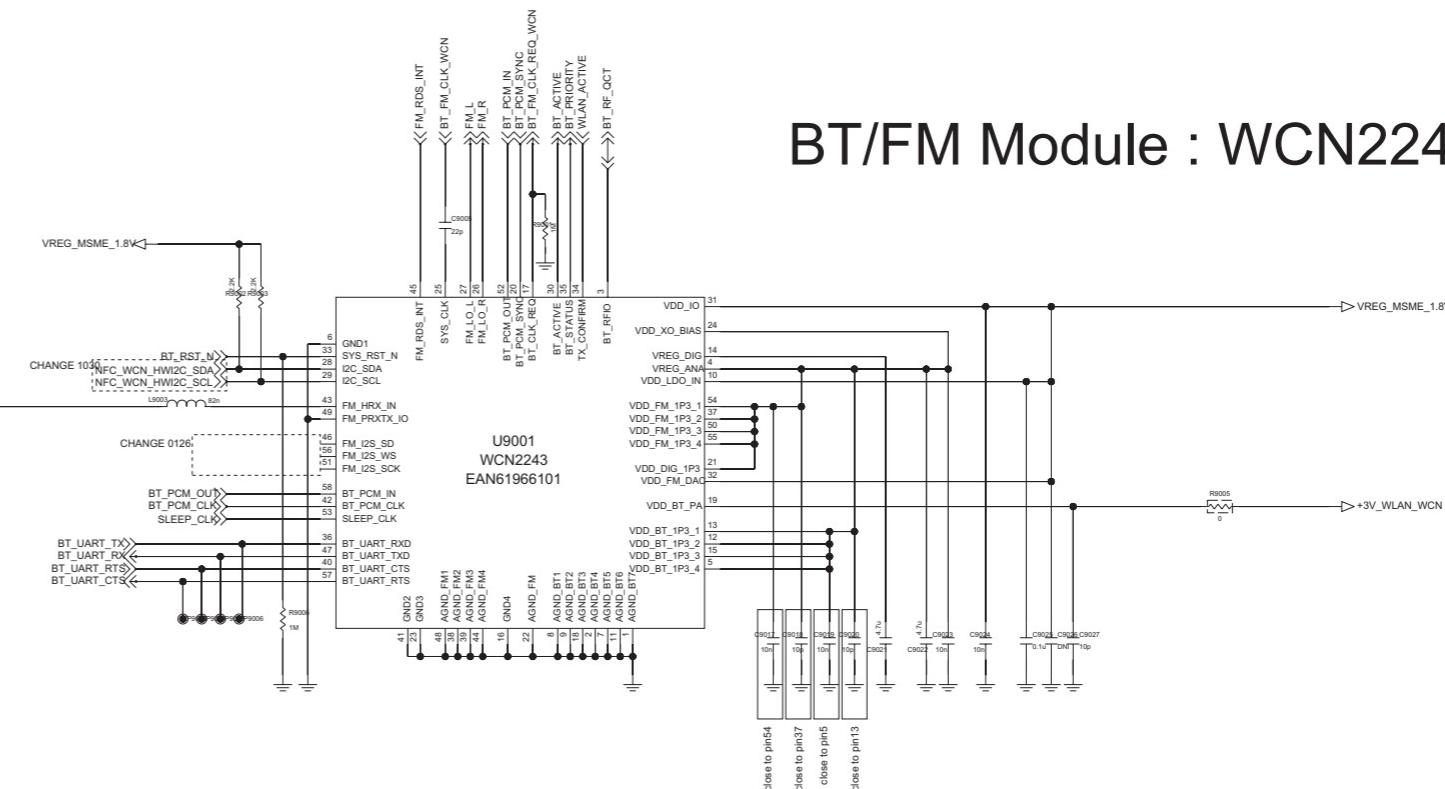
## BT/WI-FI FRONT-END



ANTENNA SWITCH MODULE LOGIC

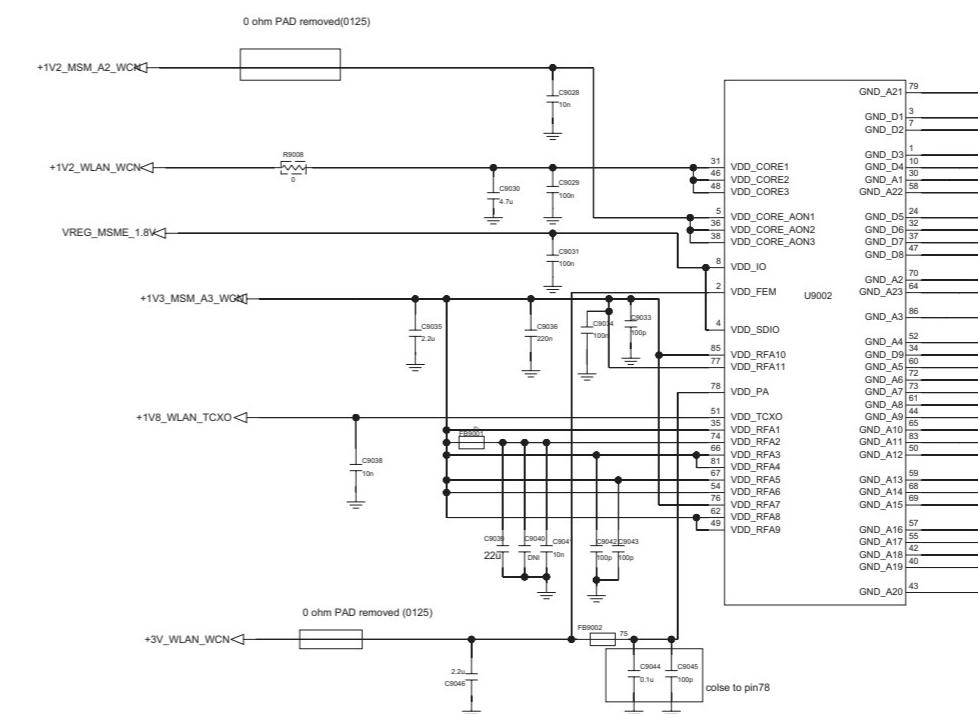
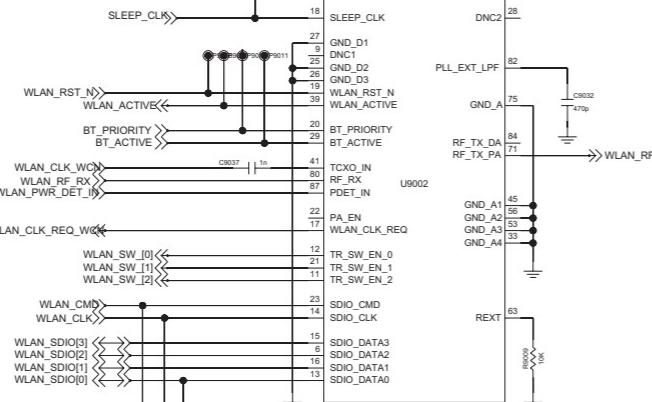
	SW0	SW1	SW2
WiFi RX-ANT	HIGH	LOW	LOW
WiFi TX-ANT	LOW	HIGH	LOW
BT-ANT	LOW	LOW	HIGH

## BT/FM Module : WCN2243

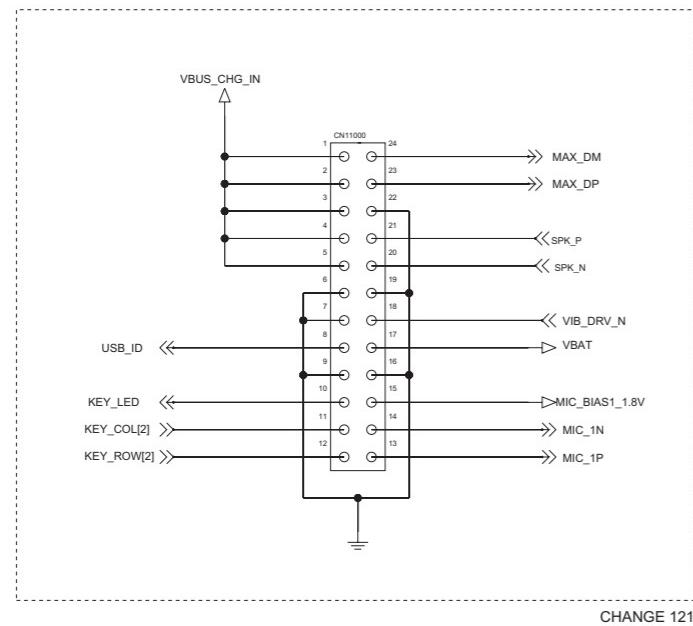


## WiFi : WCN 1314

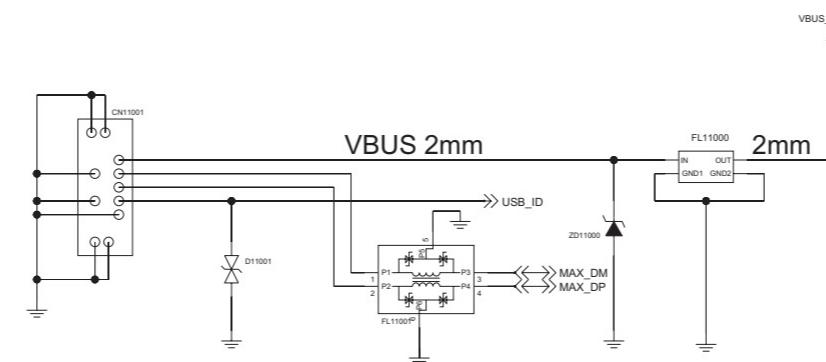
### Wi-Fi : WCN1314



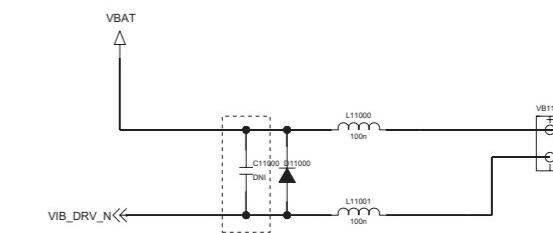
## FPCB\_KEY Connector



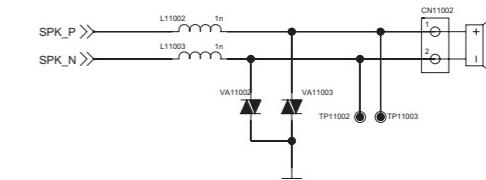
## u-USB Connector



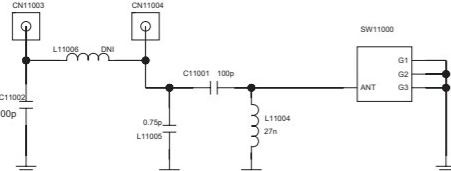
## DC MOTOR



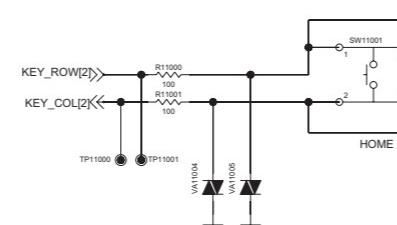
SPK



## MAIN ANT

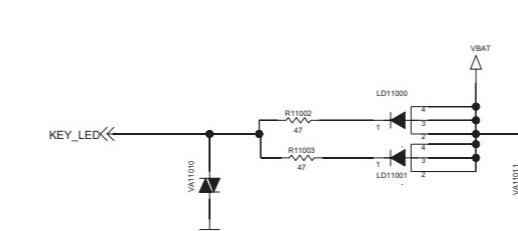


## Home KEY

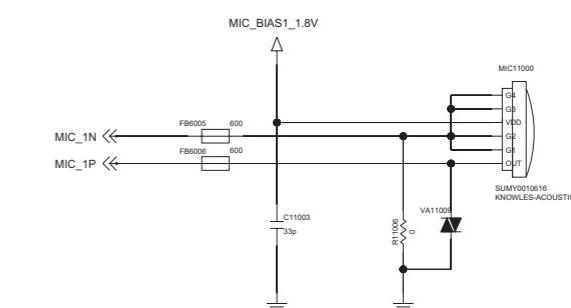


	COL[1]	COL[2]
ROW[0]	VOL_UP	
ROW[1]	VOL_DOWN	
ROW[2]	HOME	

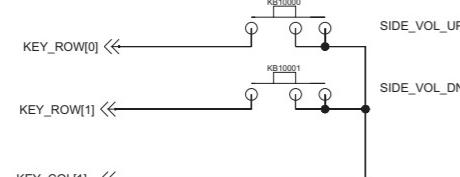
## KEY LED



MIC

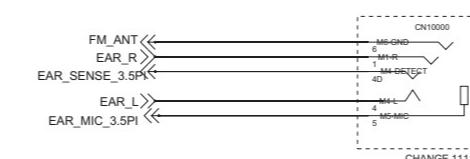


## VOLUME SIDEKEY

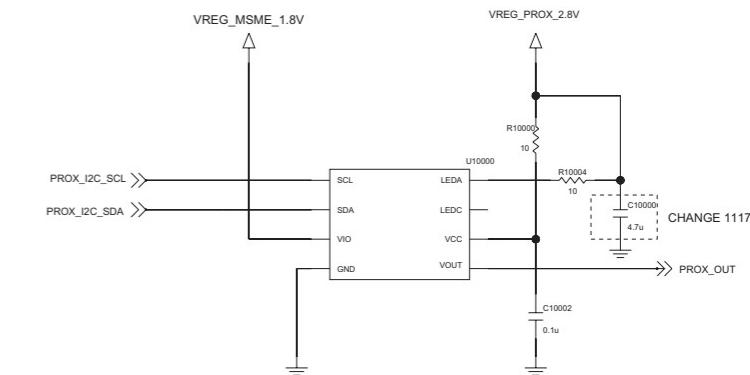


	COL[1]	COL[2]
ROW[0]	VOL_UP	
ROW[1]	VOL_DOWN	
ROW[2]		HOME

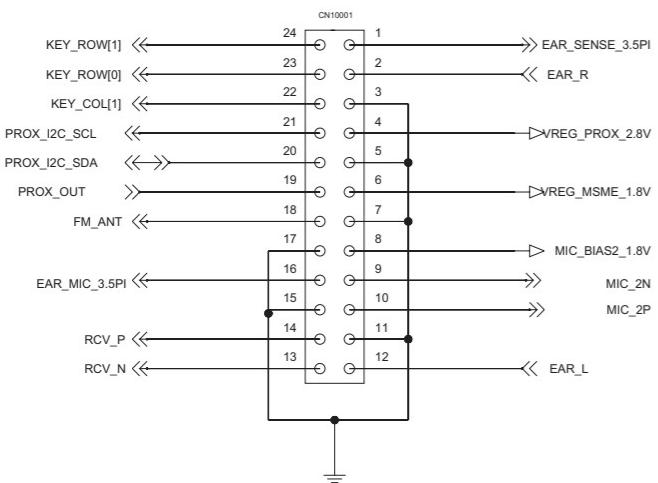
## 3.5 Phi Earjack



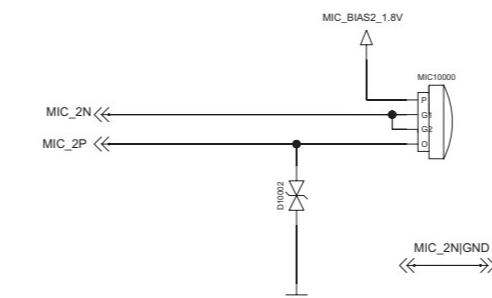
## Proximity Sensor



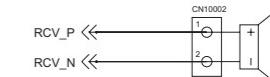
## Upper FPCB C/N



## MIC2



## Receiver



## 8. BGA PIN MAP

### 8. BGA PIN MAP

U3002 - Memory MCP (Top View)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
A	DNU		DAT0m	DAT1m	DAT2m			VDDQd	VSSQd	VSSd	VDDd	VSSQd		DNU
B		DAT3m	DAT4m	DAT5m	DAT6m	DAT7m	DQ30d	DQ28d	DQ26d	DQ24d	DQS3d	DQ23d	VDDQd	
C	VSSd	VDDIm	A4d	VSSQm		VCCQm	DQ31d	DQ29d	DQ27d	DQ25d	DM3d	DQ22d	DQ21d	VDDQd
D	A5d	A6d	A7d									DQ19d	DQ20d	VSSQd
E	A12d	A11d	A8d			VCCm	VSSm					DQ18d	DQ17d	DQ16d
F	VDDd	A13d	A9d		VCCm							DQS2d	DM2d	VSSQd
G	CKE0d	$\overline{CS}0d$			VSSm							CKd	VDDQd	VDDd
H	VDDQd	$\overline{RAS}d$	$\overline{WE}d$							VSSm		$\overline{CK}d$	VDDQd	VSSd
J	CKE1d	$\overline{CAS}d$	$\overline{CS}1d$							VCCm		DQS1d	DM1d	VSSQd
K	BA1d	VSSd	A10d		RSTm			VSSm	VCCm			DQ13d	DQ14d	DQ15d
L	BA0d	A0d	A1d									DQ11d	DQ12d	VSSQd
M	VSSd	VDDd	A2d	VCCQm	CMDm	CLKm	DQ1d	DQ3d	DQ5d	DQ7d	DM0d	DQ9d	DQ10d	VDDQd
N		VSSQm	A3d	VCCQm	VSSQm	VSSQd	DQ0d	DQ2d	DQ4d	DQ6d	DQS0d	DQ8d	VDDQd	
P	DNU		VCCQm	VSSQm	VCCQm	VSSQm		VDDQd	VSSQd		VDDd	VSSQd		DNU

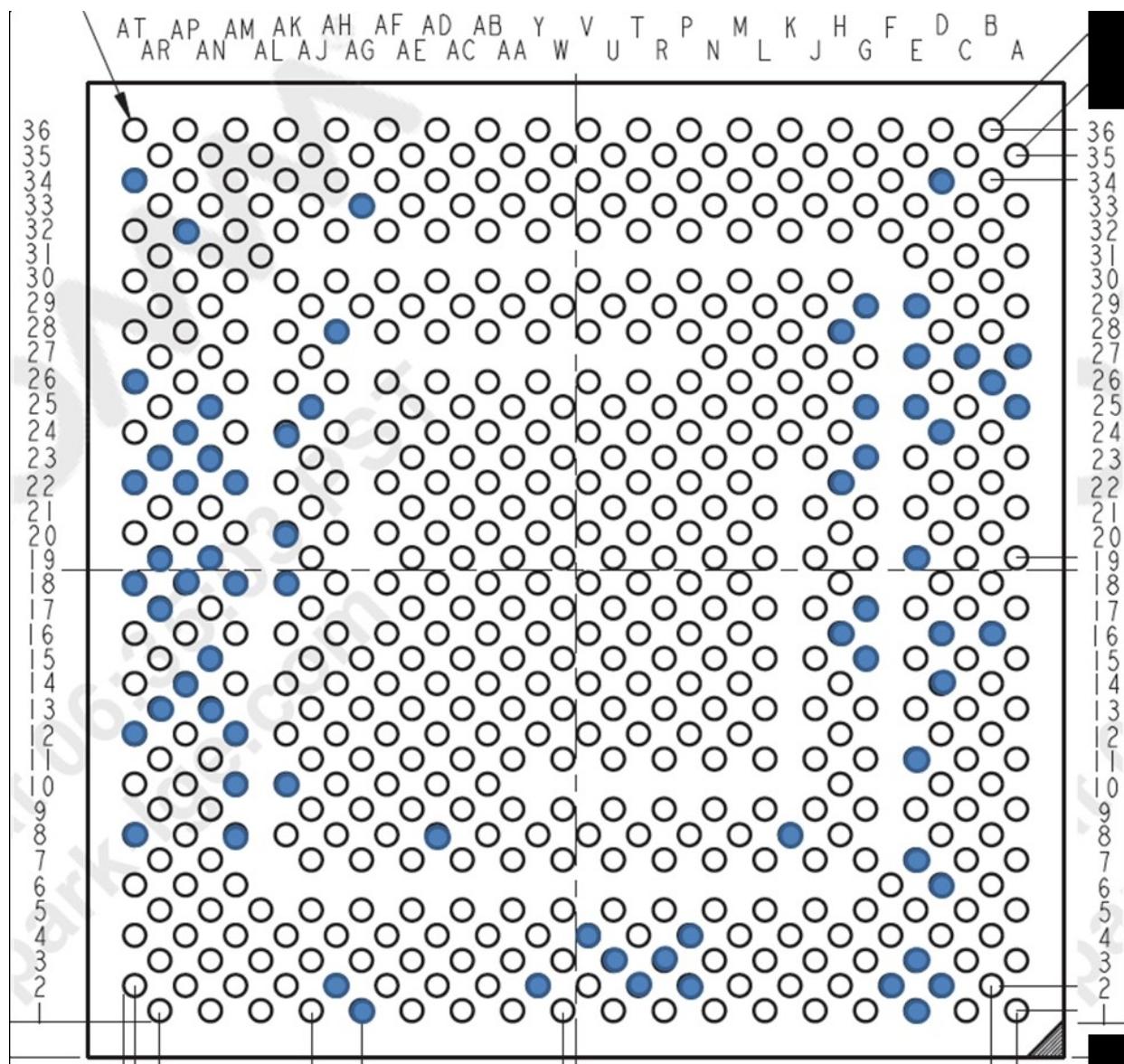
153 FBGA: Top View (Ball Down)



NOT IN USE

## 8. BGA PIN MAP

U2001 - MSM7225A (Bottom View)

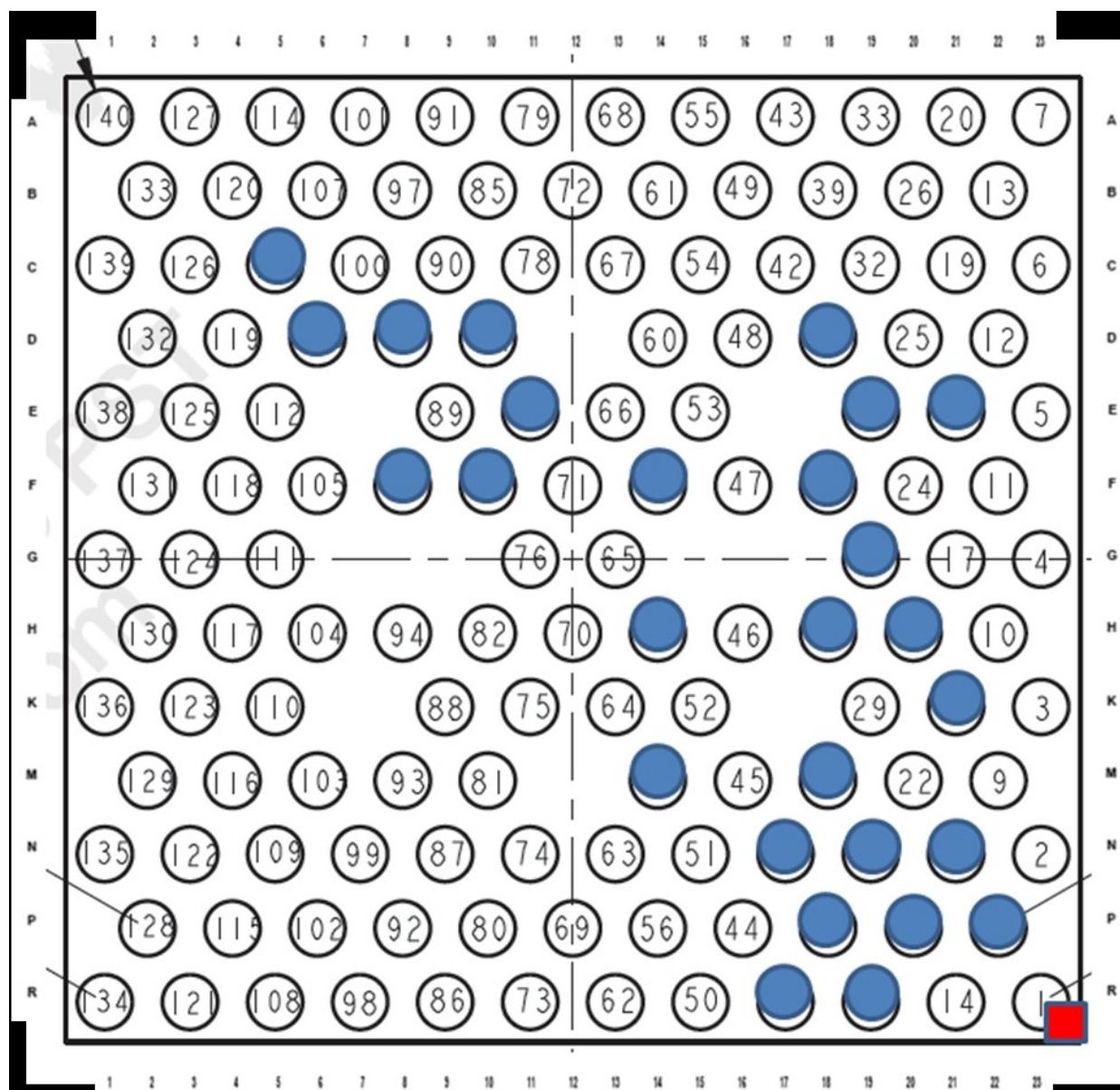


○ USE

● NOT IN USE

## 8. BGA PIN MAP

U4002 - PM8029 (Bottom View)



○ USE

● NOT IN USE

## 8. BGA PIN MAP

U1001 - RTR6285A (Top View)

	1	2	3	4	5	6	7	8	9	10	11	12	13	
A	GND	TX_BIAS	DAC_IREF	TX_IP	VDDA2	VDDA2	HB_RF_O_UT3	HB_RF_O_UT2	HB_RF_O_UT1	LB_RF_OU_T1	VDDA1	PDET_IN	GND	A
B	VDDA2	GND	TX_QP	TX_ON	TX_IN	VDDA2	GND	GND	LB_RF_OU_T2	VDDA2	GND	EGSM_INN	GCELL_INN	B
C	TCXO	GND										EGSM_INP	GCELL_INP	C
D	VDDA1	VDDA1					GND	GND	GND	GND		GPCS_INN	DCS_INN	D
E	VTUNE1	GND					GND	GND	GND	GND		GPCS_INP	DCS_INP	E
F	VDDA1	VDDA2					GND	GND	GND	GND		GND	VDDA2	F
G	VTUNE_G_PS	VDDA2					GND	GND	GND	GND		GND	GPS_IN	G
H	VDDA1	VDDA1					GND	GND	GND	GND		GND		H
J	PRX_QP	PRX_ON					GND	GND	GND	GND		V1	V2	J
K	PRX_IN	PRX_IP					GND	GND	GND	GND		GND	WPRXSE1	K
L	DRX_QP	DRX_ON										VDDA2	WPRXSE2	L
M	DRX_IP	DRX_IN	SBDT	VDDA1	VDD_MSM	VDDA2	RF_ON	WB_MX_I_NM	WPRXLBM	GND	GND	GND	WPRXSE1_OUT	M
N	GND	V	VDDA2	VDDA1	VTUNE2	VDDA2	VDDA2	WB_MX_I_NP	WPRXLBP	WPRXHBP	WPRXHBM	WPRXSE2_OUT	GND	N

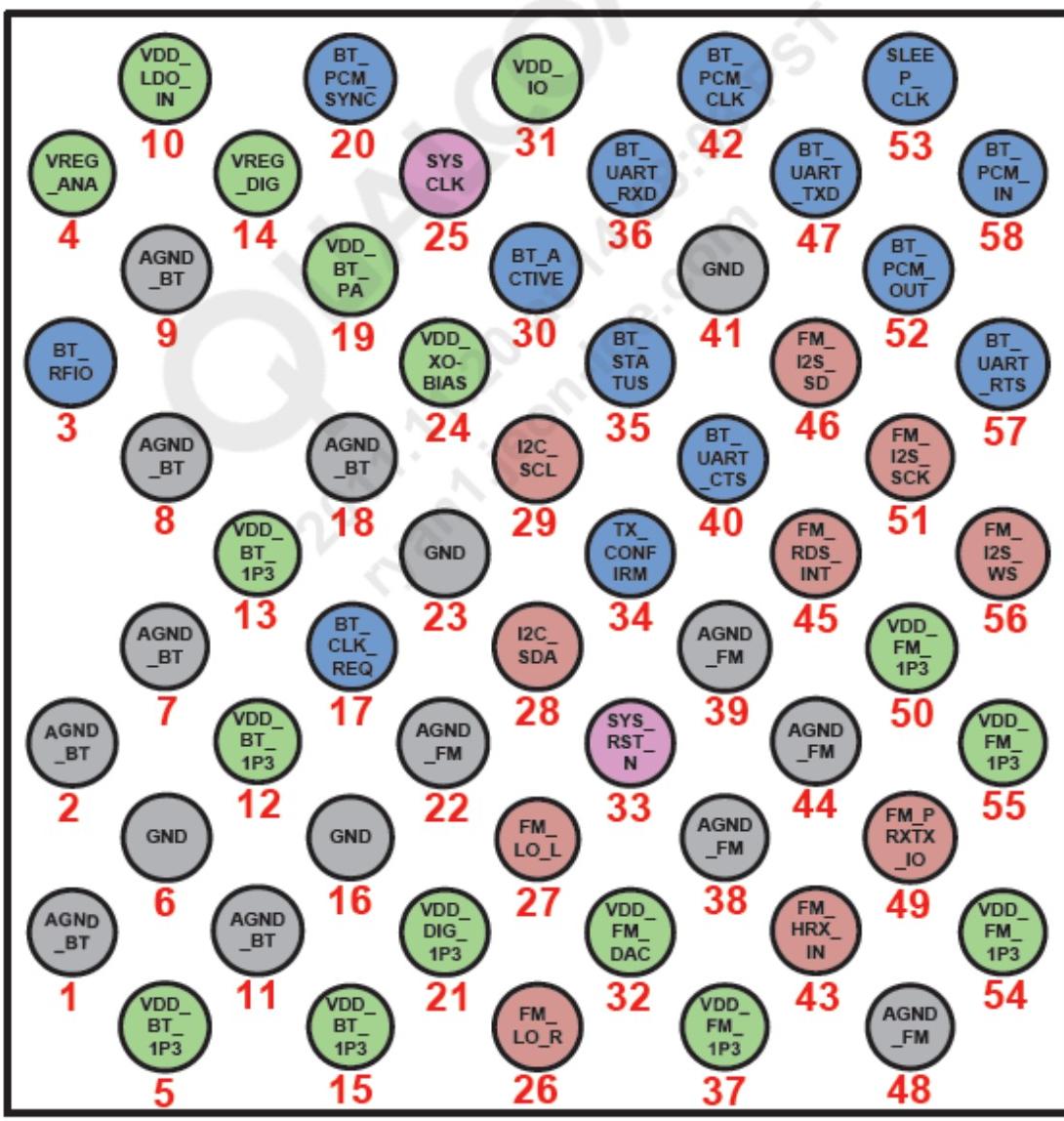
RTR6285A IC pin assignments (top view)

○ USE

● NOT IN USE

## 8. BGA PIN MAP

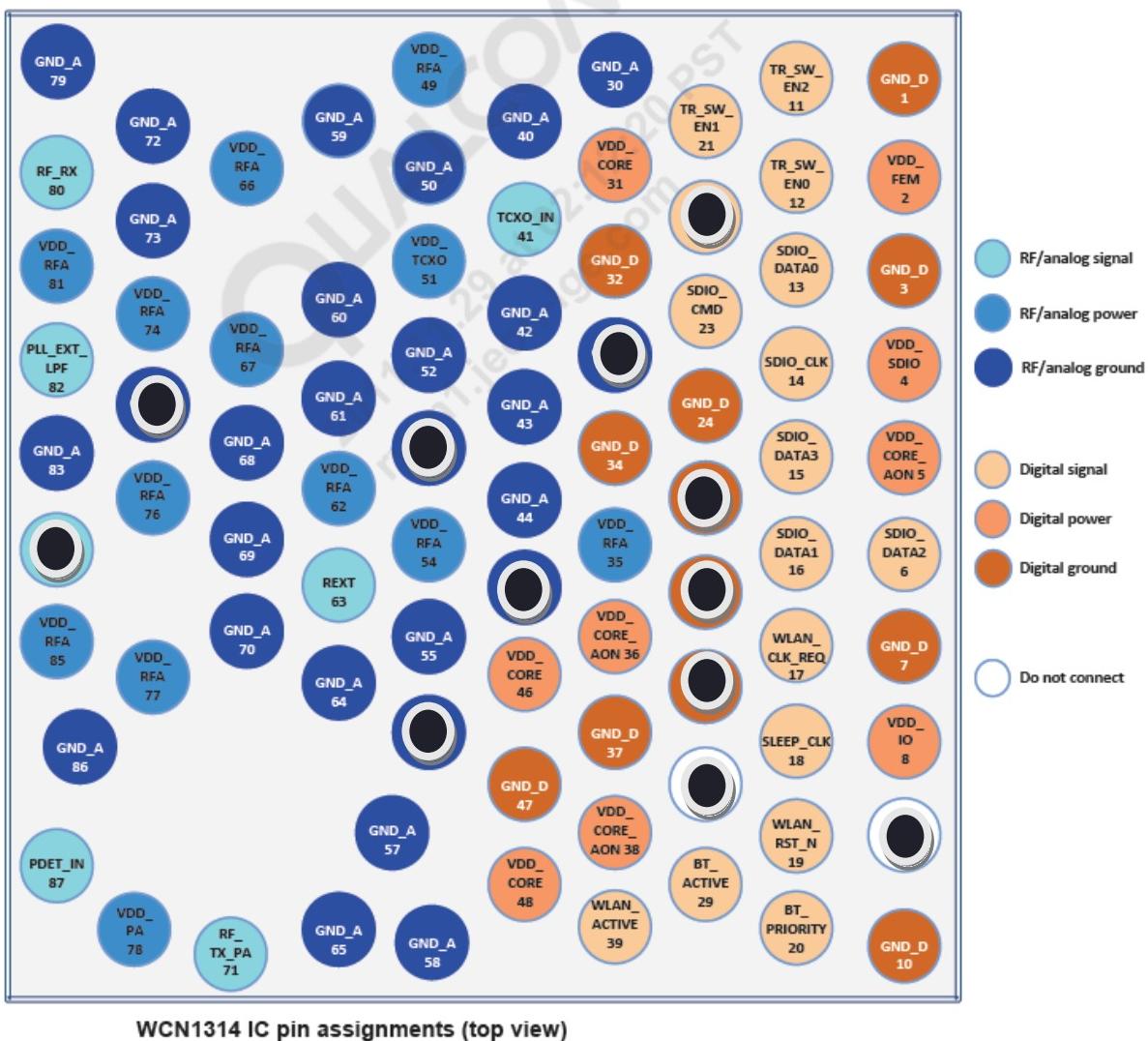
U9001 – WCN2243 (BT/FM) (Top View)



WCN2243 IC pin assignments, top view

## 8. BGA PIN MAP

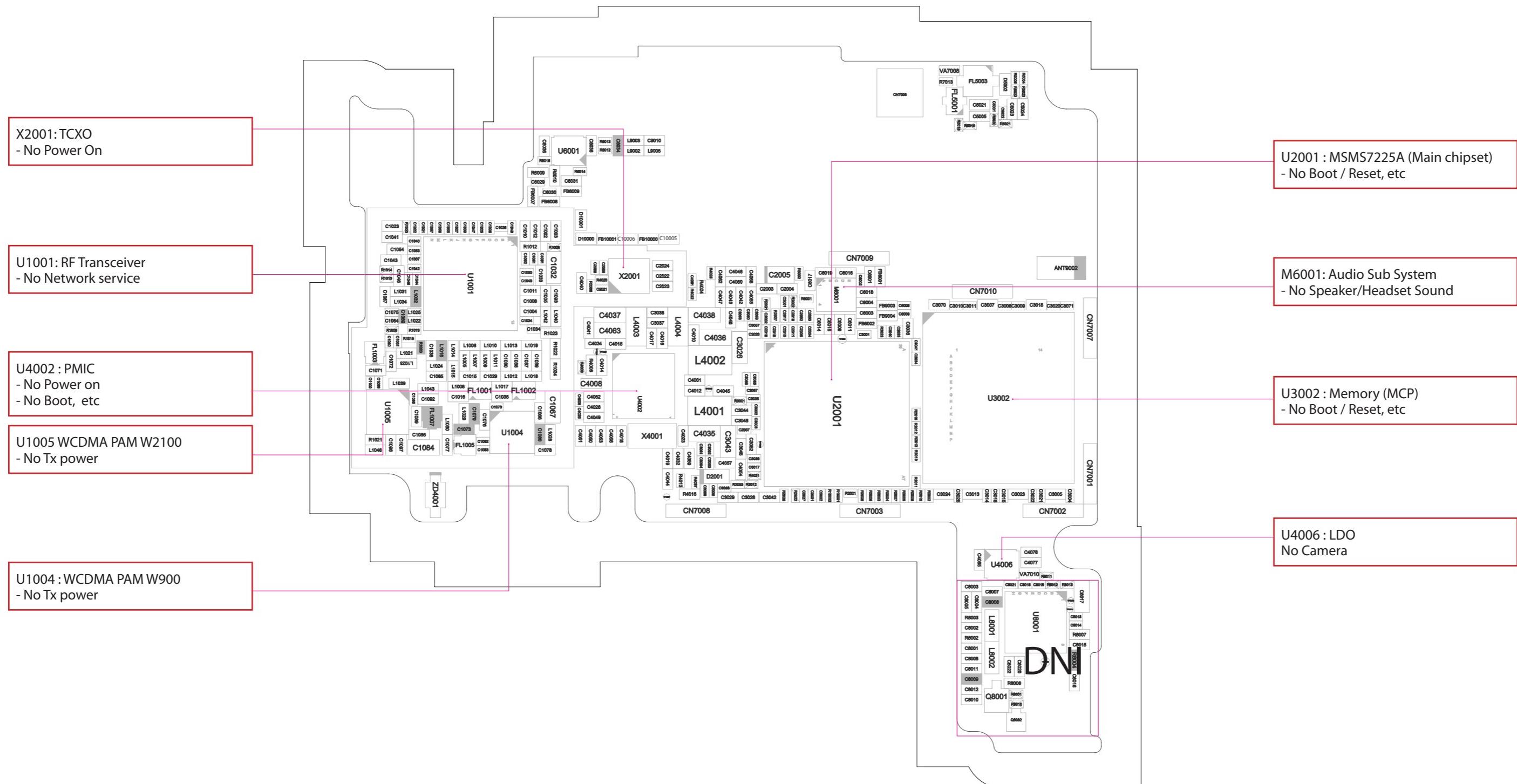
U9002 – WCN1314 (WiFi) (Top View)



○ USE

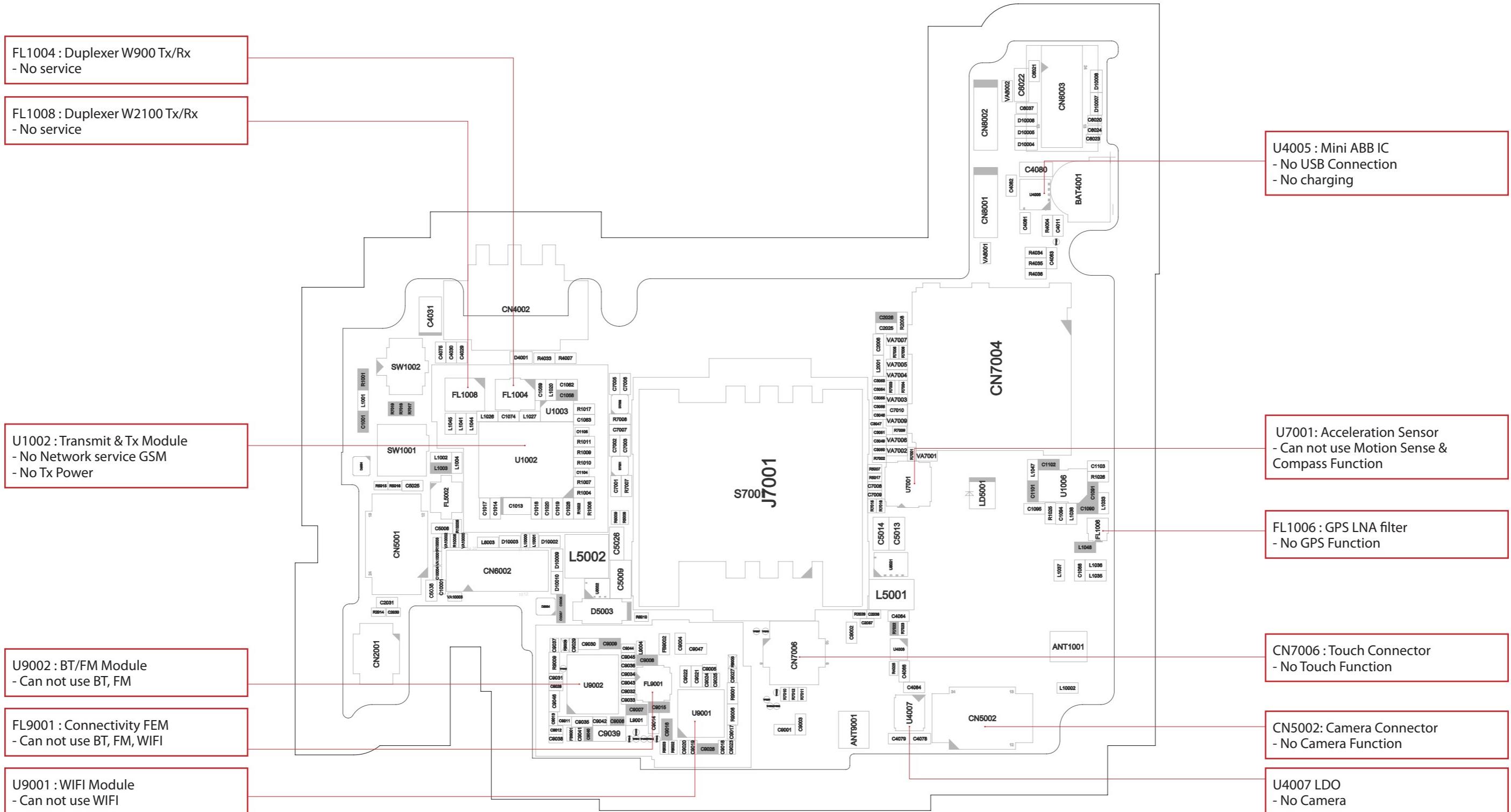
● NOT IN USE

## 9. PCB LAYOUT

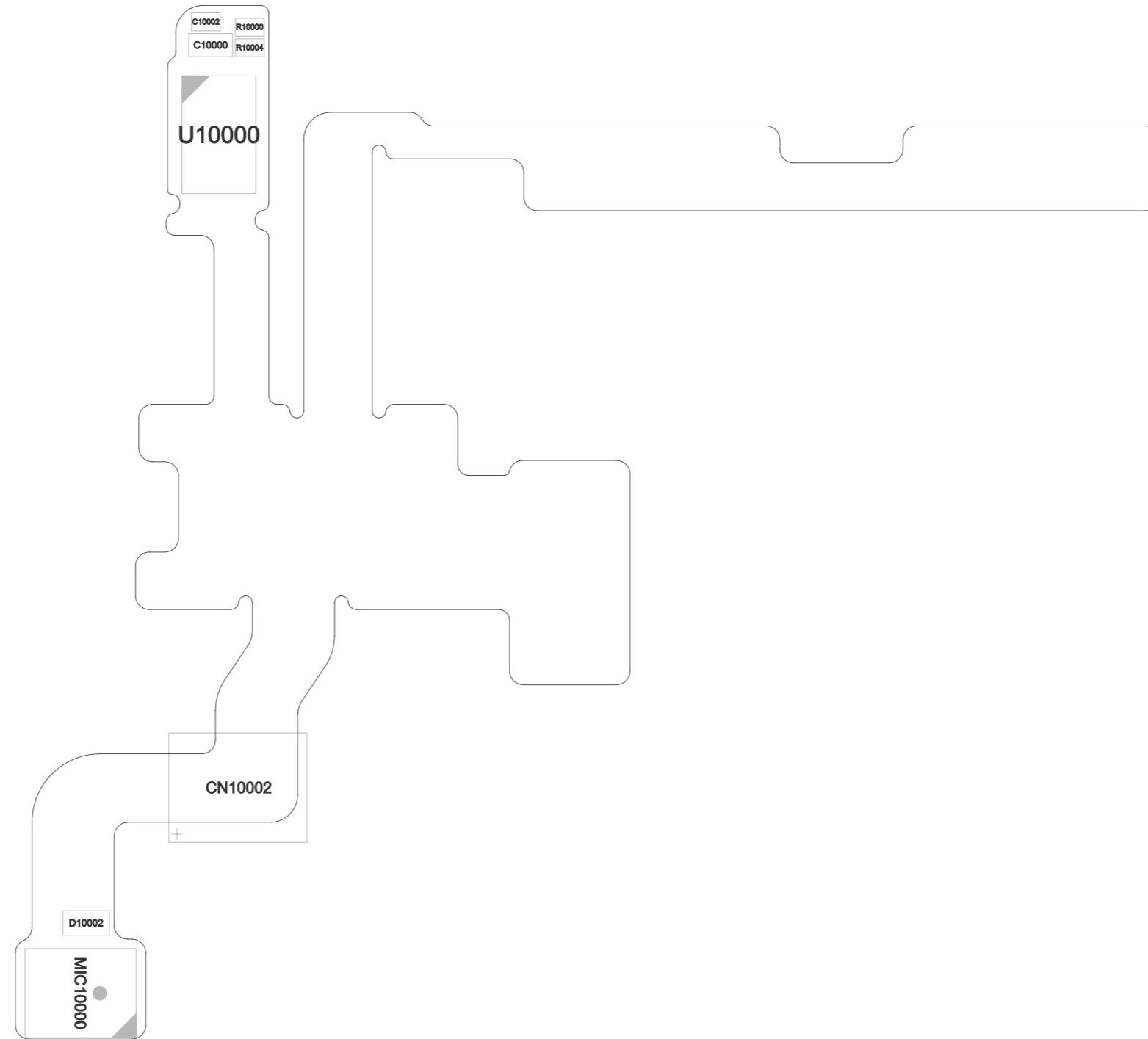


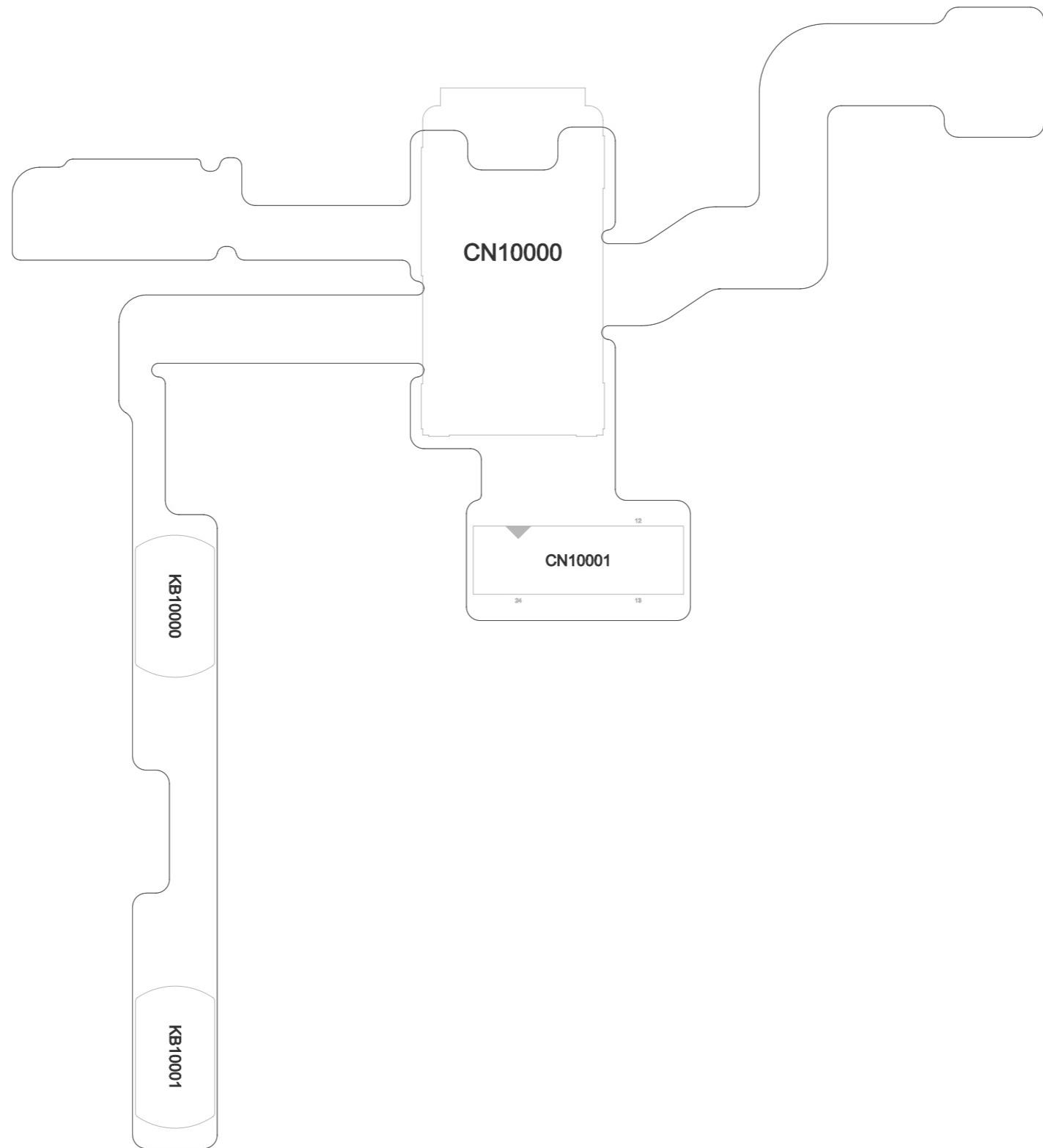
LG-E615\_MAIN\_EAX64750401\_1.2\_TOP

## 9. PCB LAYOUT

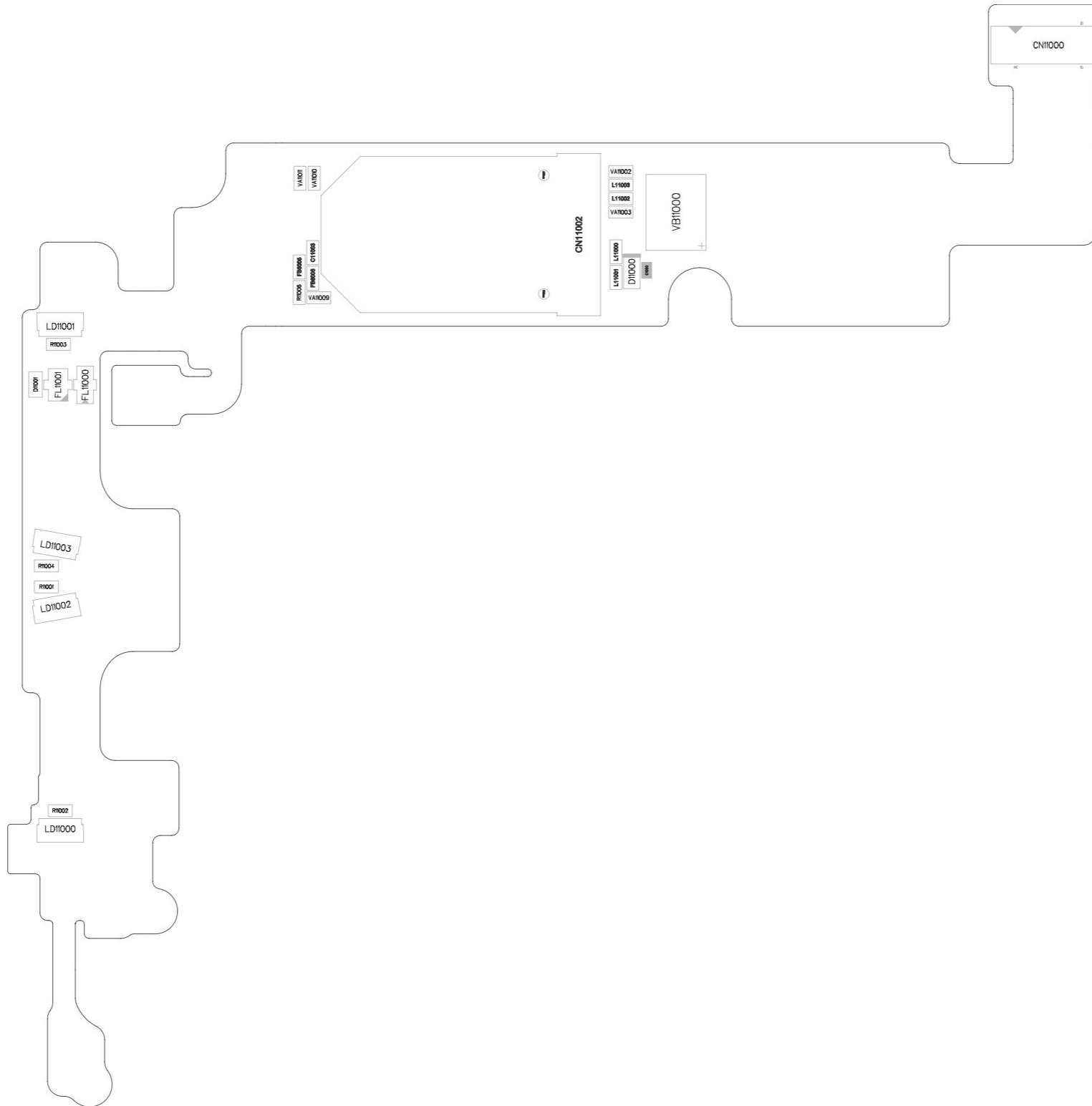


LG-E615\_MAIN\_EAX64750401\_1.0\_BOT

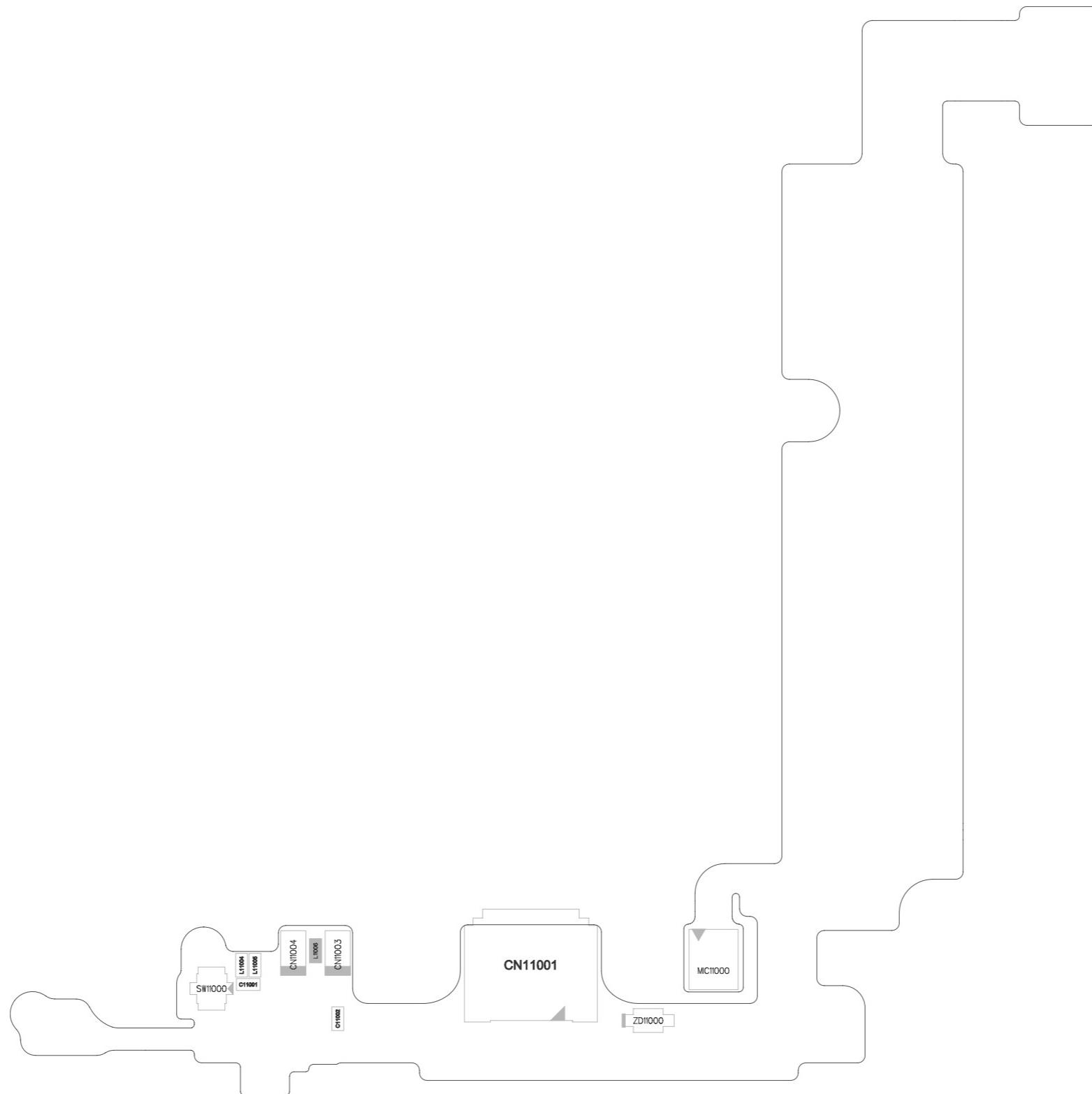
**LG-E615\_F\_UPPER\_EAX64750401\_1.0\_BOT**



**LG-E615\_F\_UPPER\_EAX64750401\_1.2\_TOP**



LG-E615\_F\_LOWER\_EAX64794501\_1.0\_TOP



**LG-E615\_F\_LOWER\_EAX64794501\_1.0\_BOT**

# 10. CALIBRATION

## CAL INFORMATION

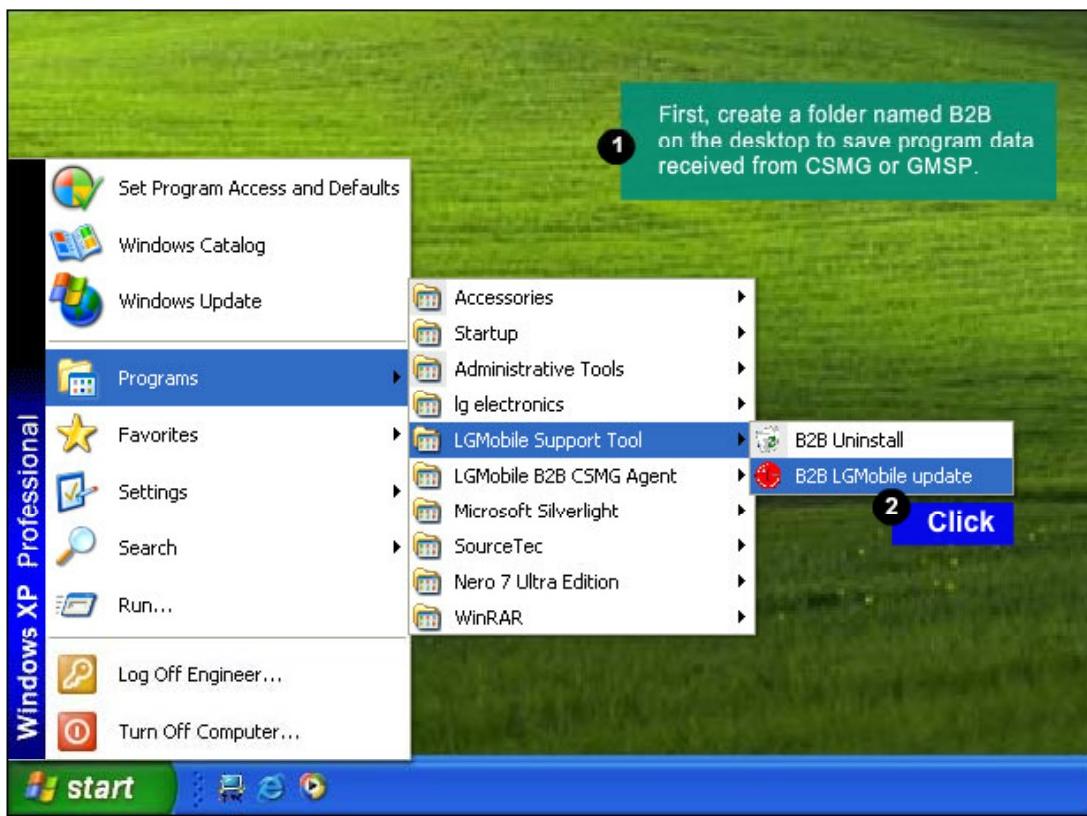
### S/W VERSION

[TachyonV36]LGE615\_20120828\_Calibration

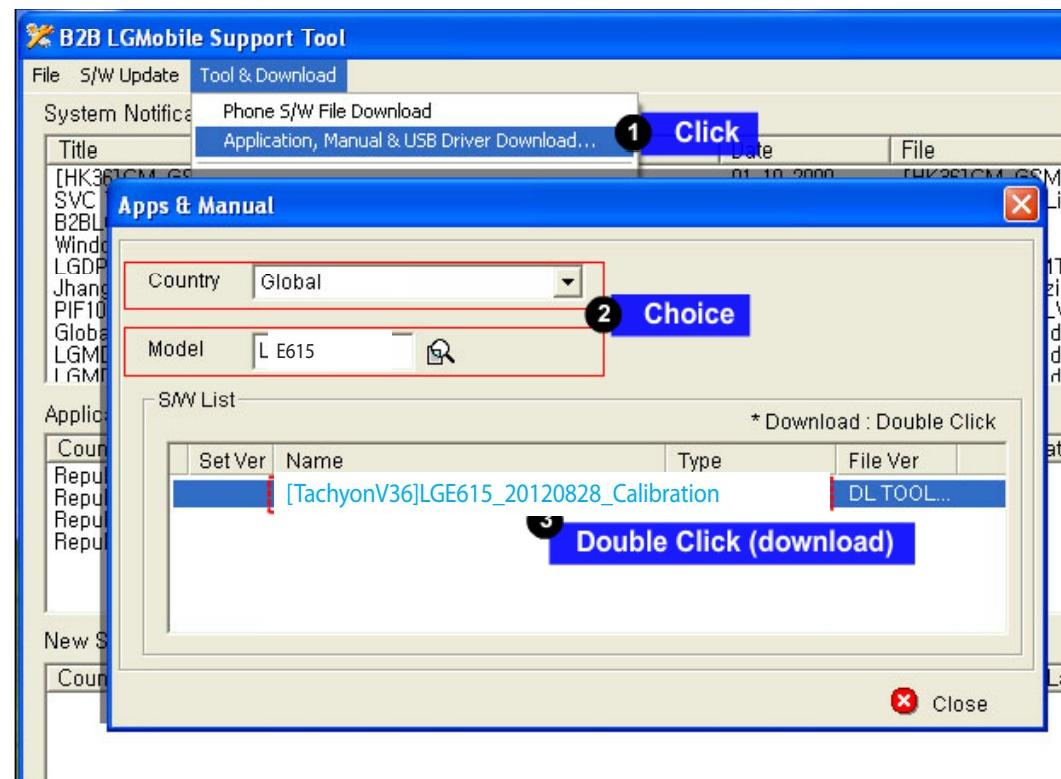
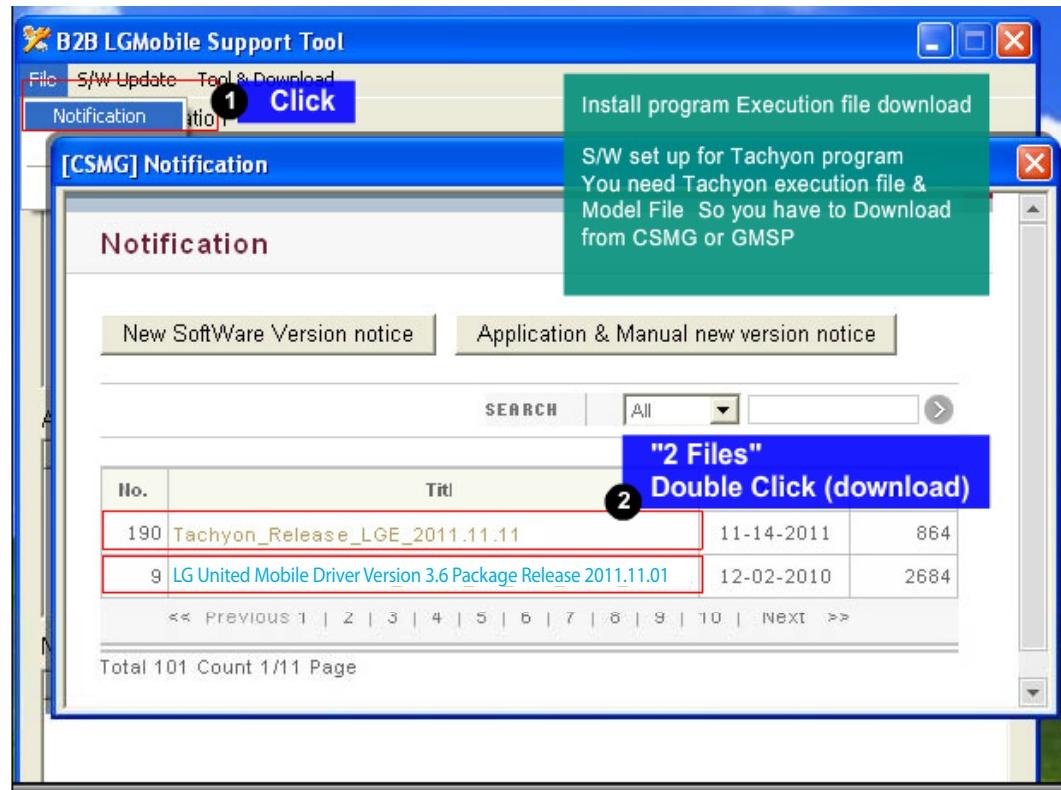
Please Check the Version to "B2B"

### H/W

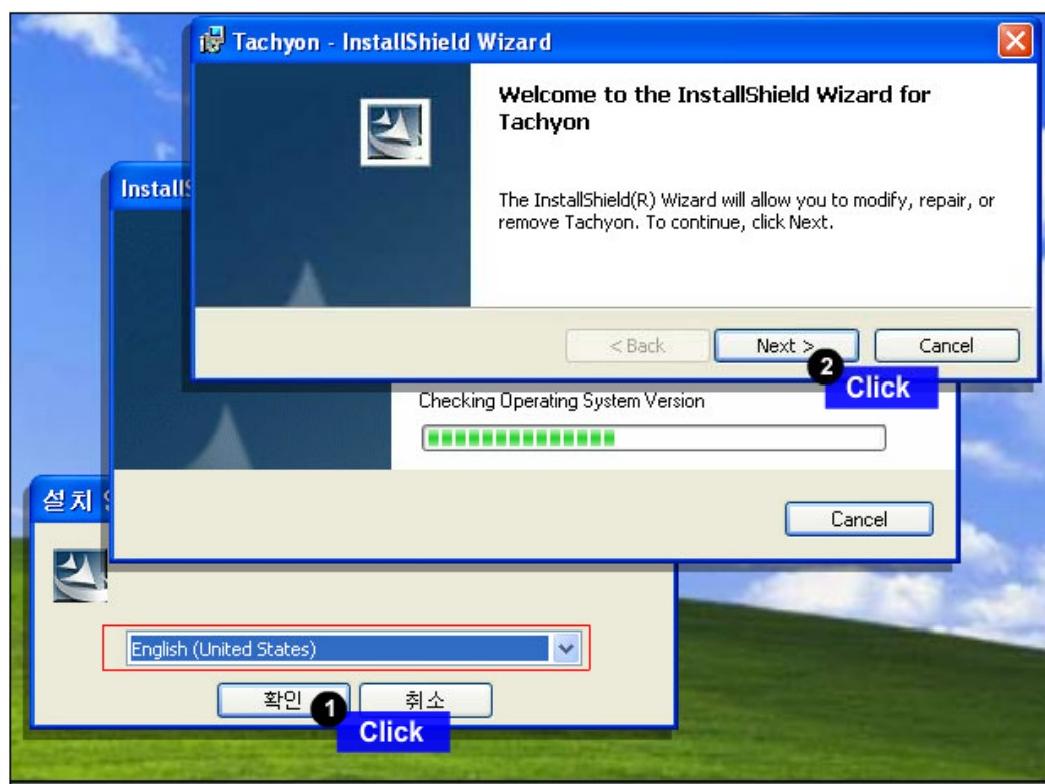
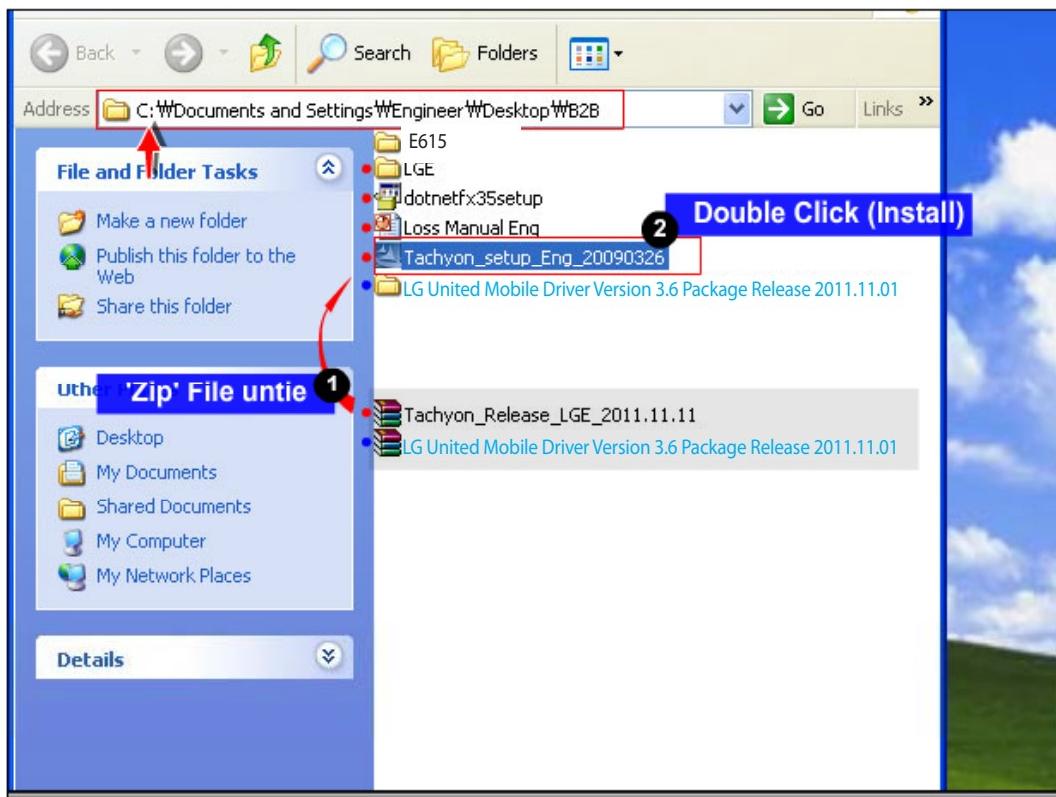
	Name	Part No.
PIF	PIF200(All Type)	BJAY0024021
USB Cable	USB Cable	RAD32247898
Power Cable	DC Power Cable	RAD32247878
I/O Cable	5P E-SATA_DC_Plug	RAD32167861
RF Cable_Main	RF-900	BJAY0023732
Power Supply_PIF	Power Supply 5.3V	
Power Supply_Phone	Power Supply 5.0V	
RF Test Equipment	E5515C(8960)	



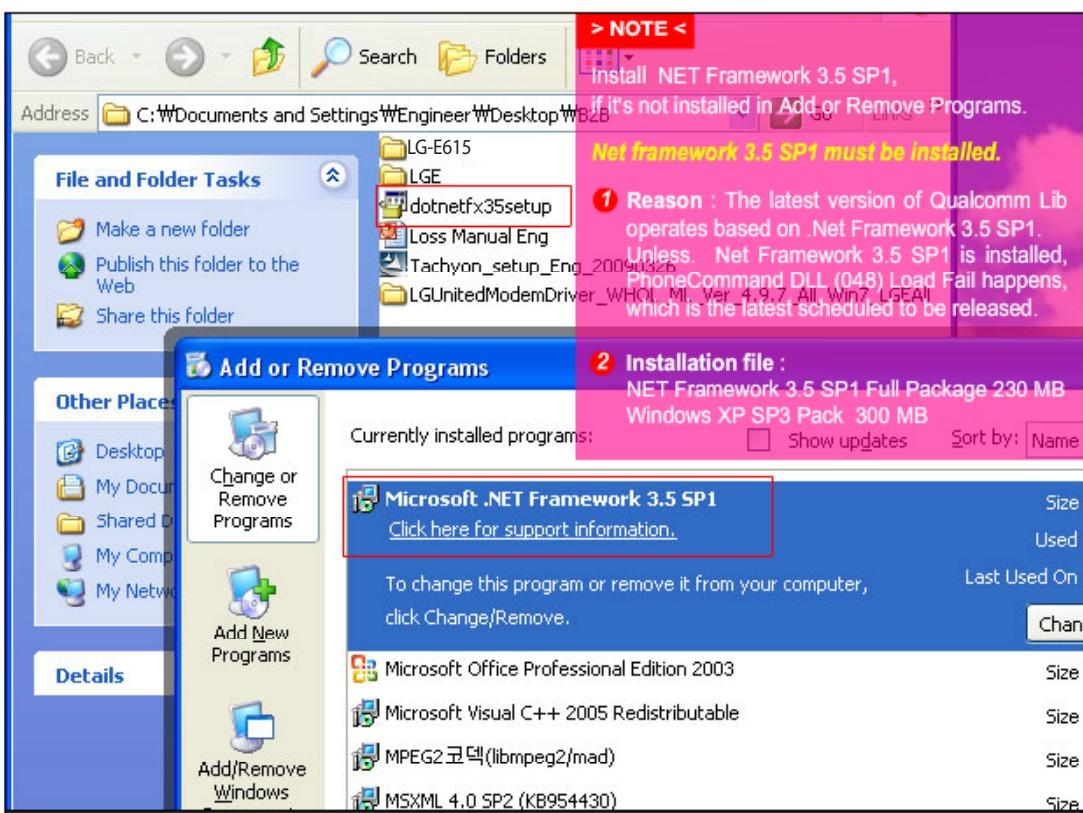
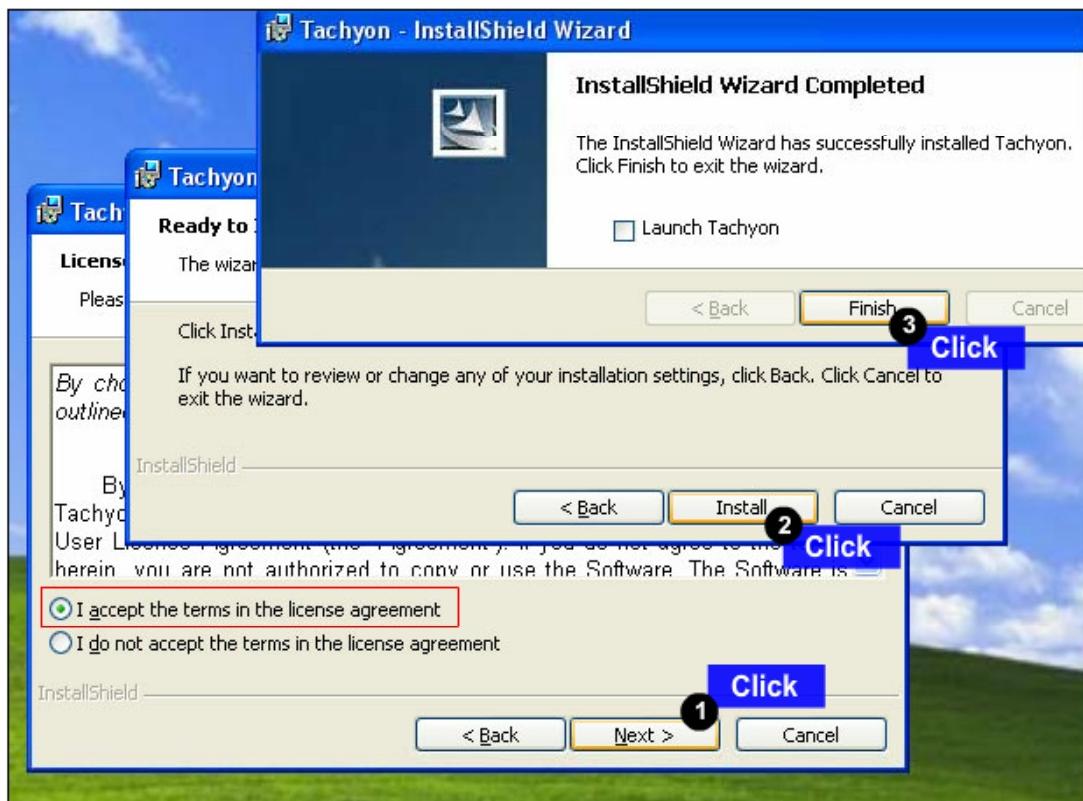
## 10. CALIBRATION



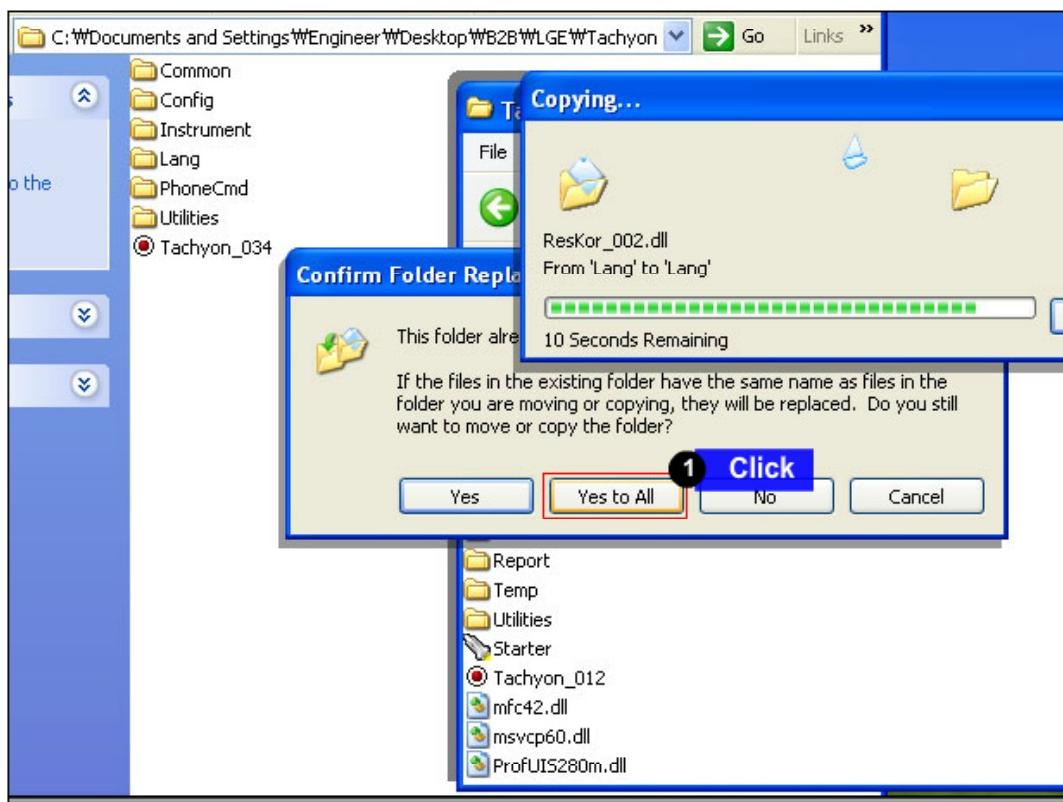
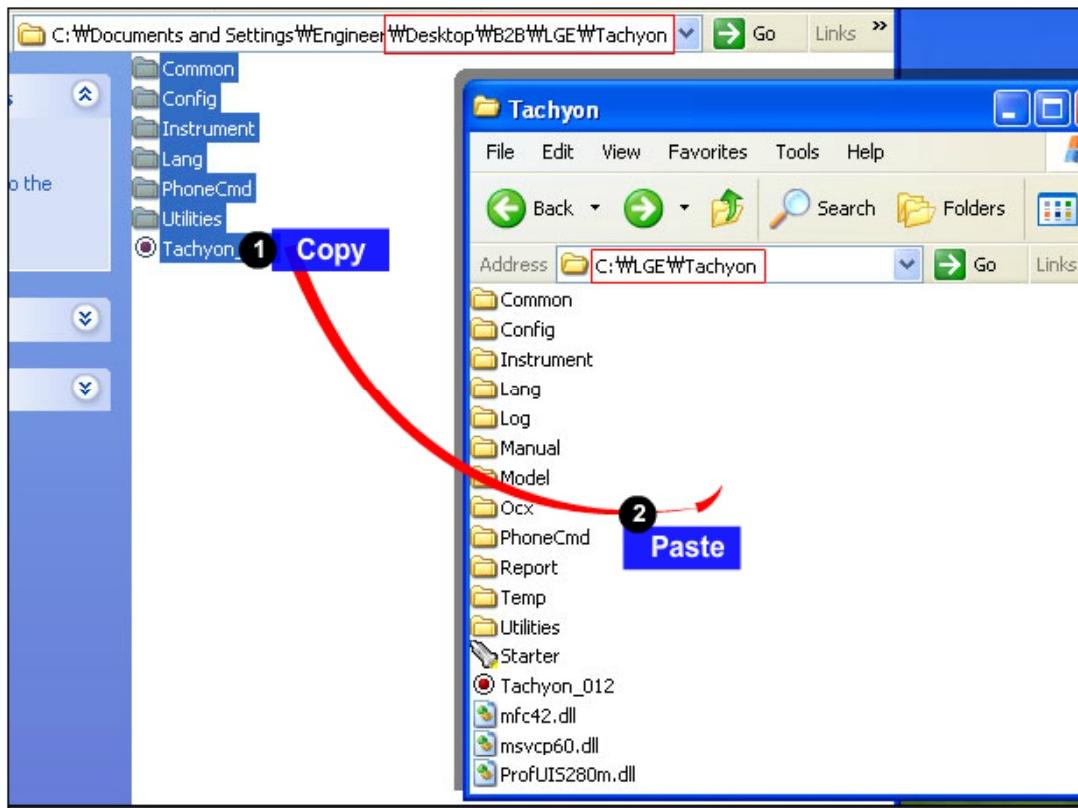
## 10. CALIBRATION



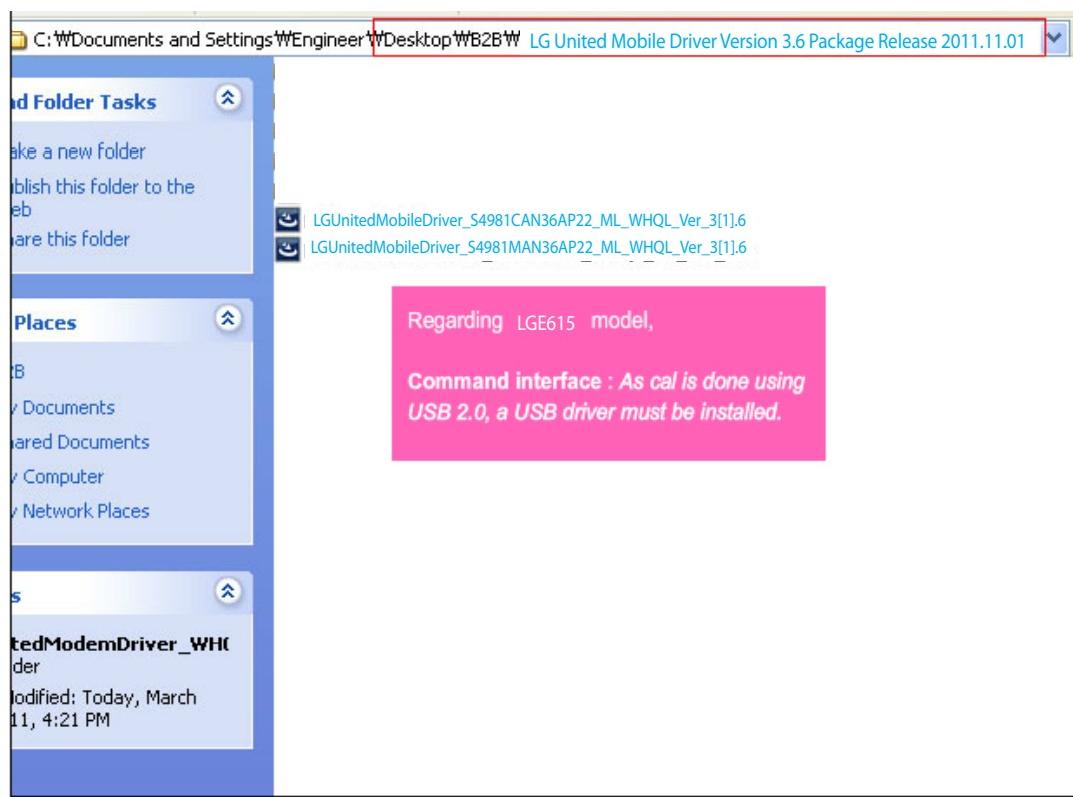
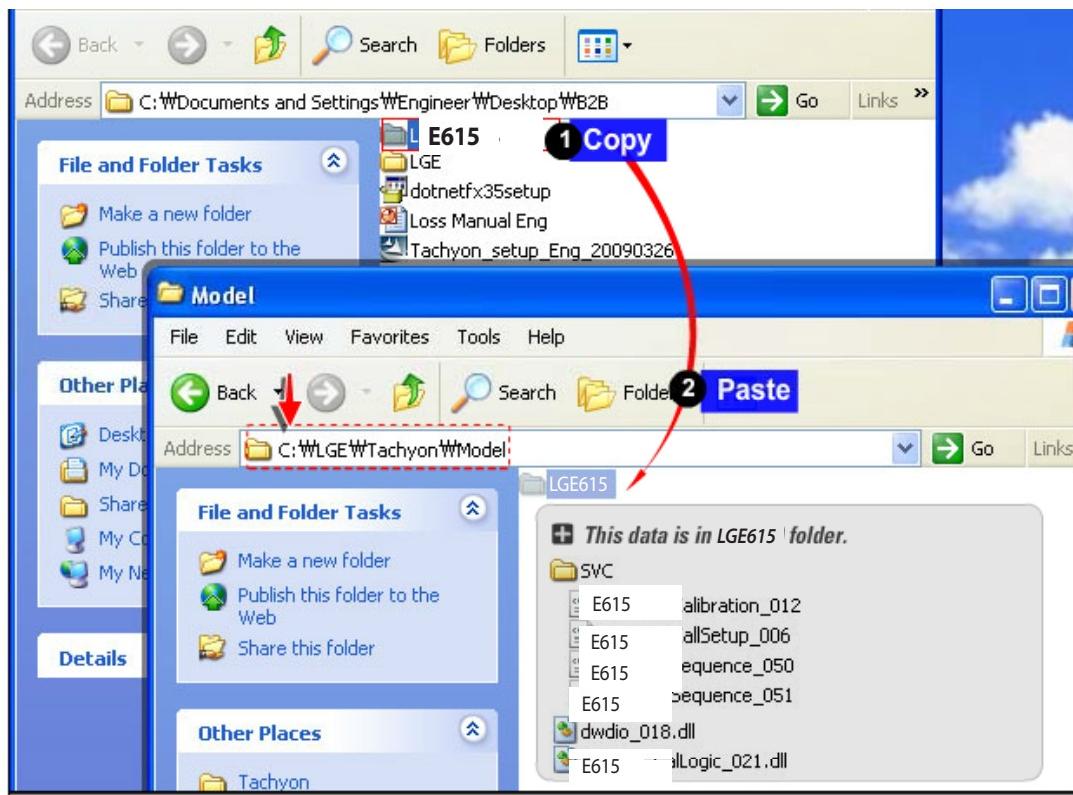
## 10. CALIBRATION



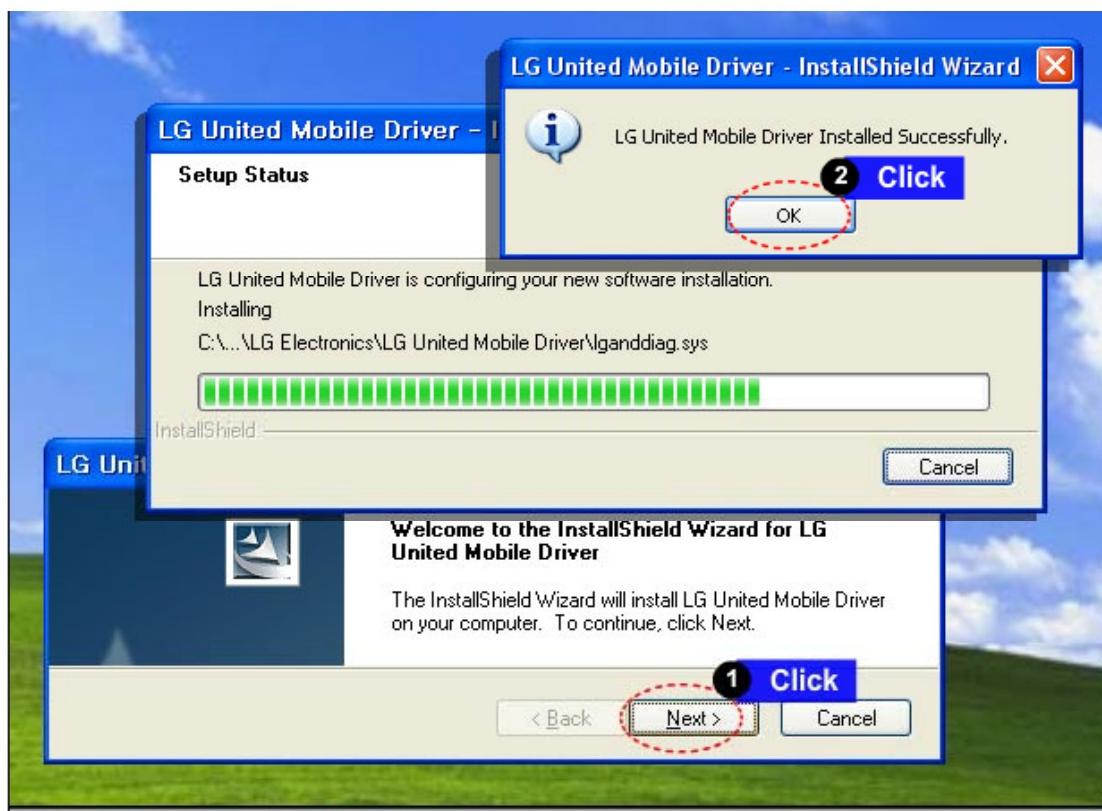
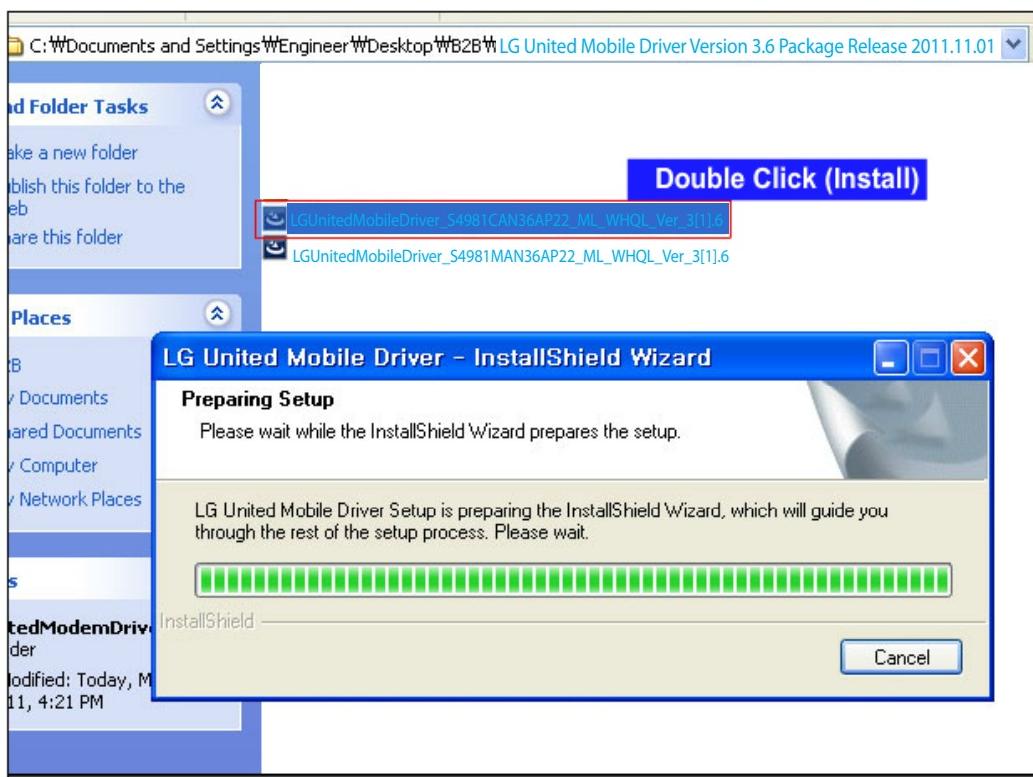
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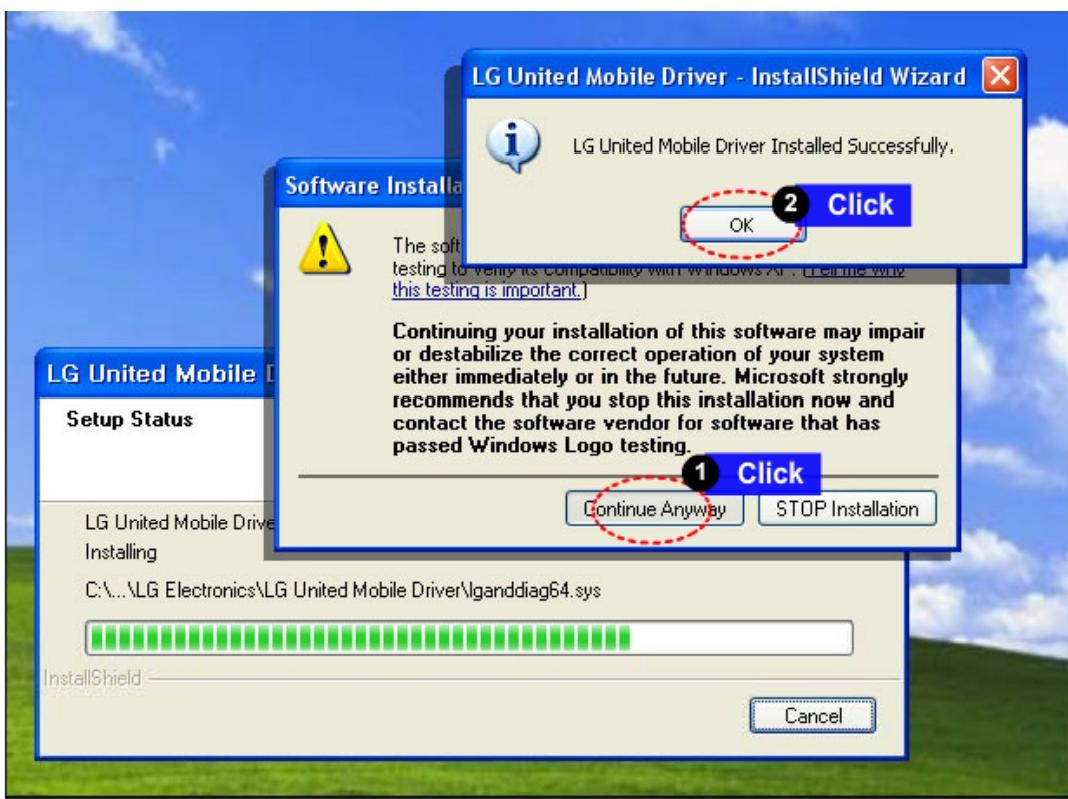
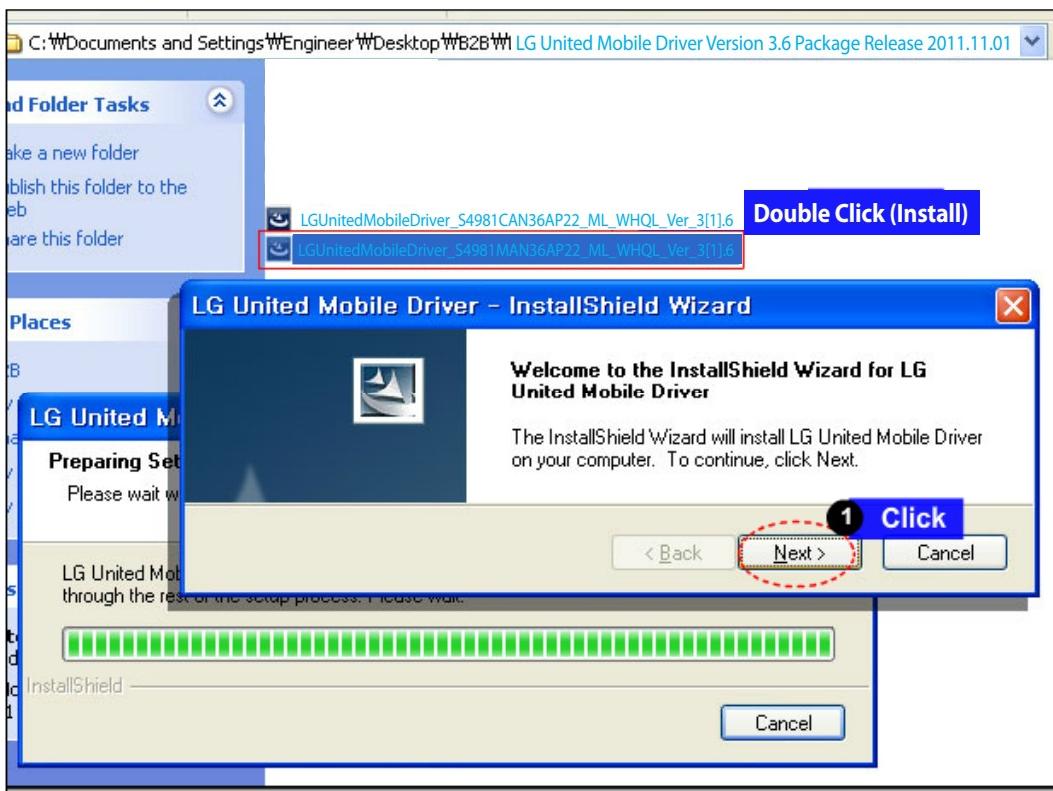
## 10. CALIBRATION



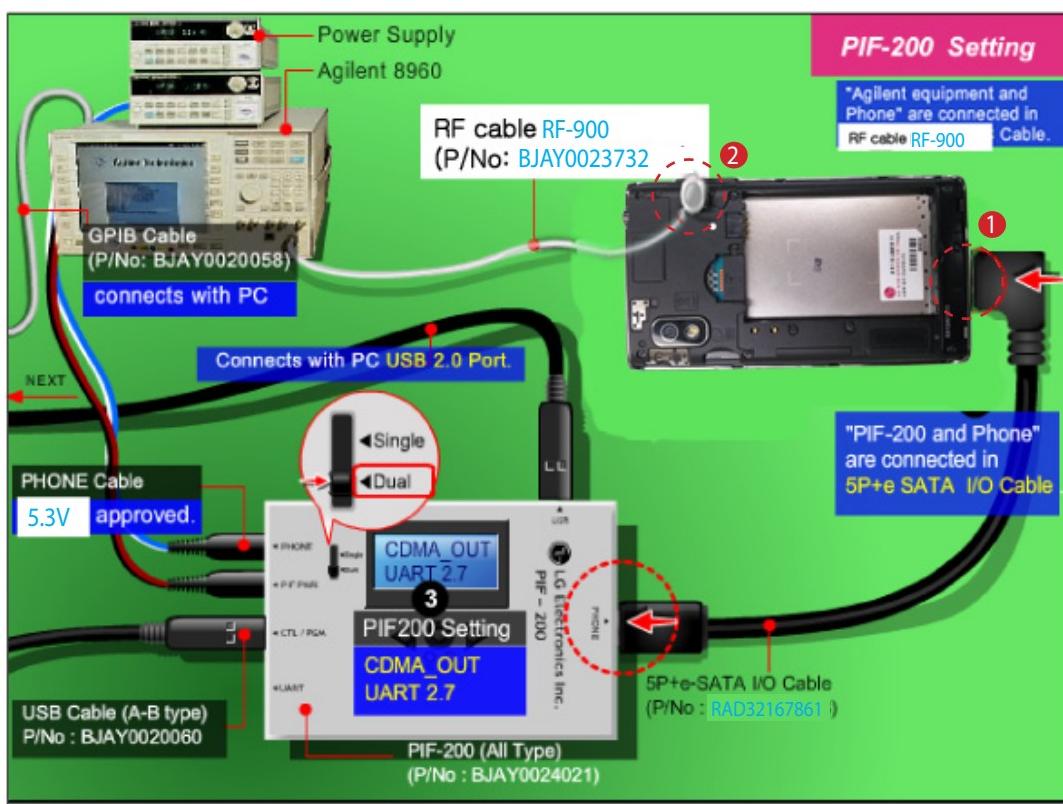
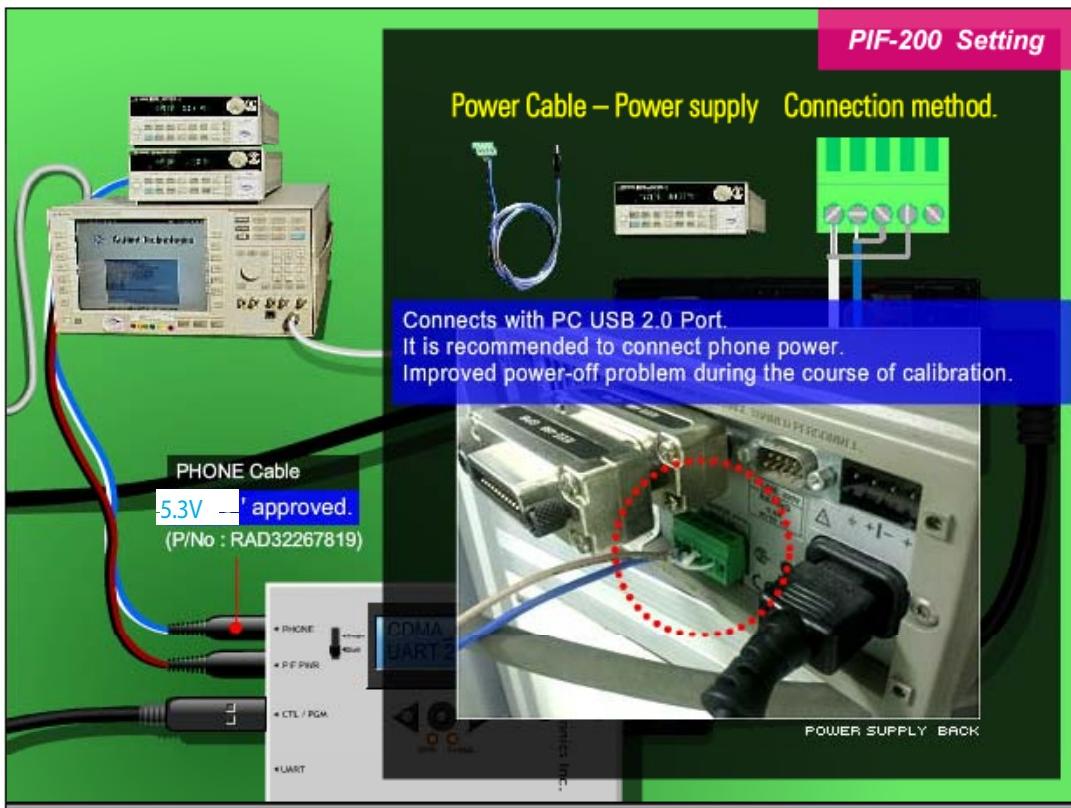
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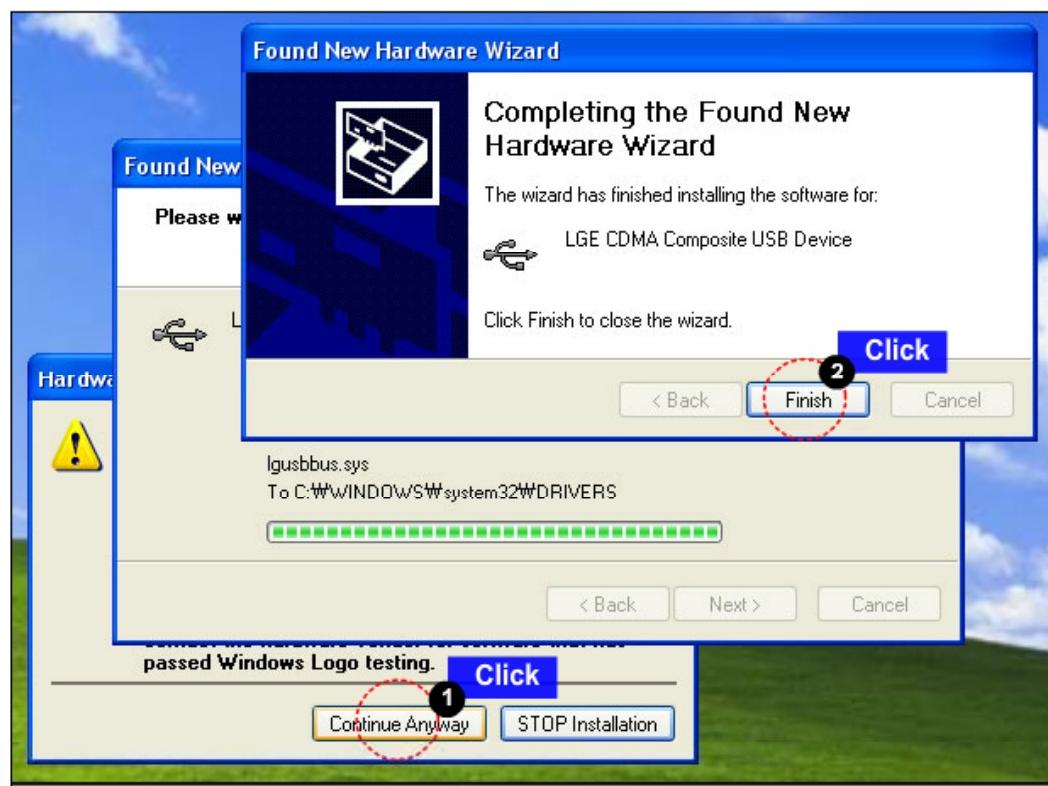
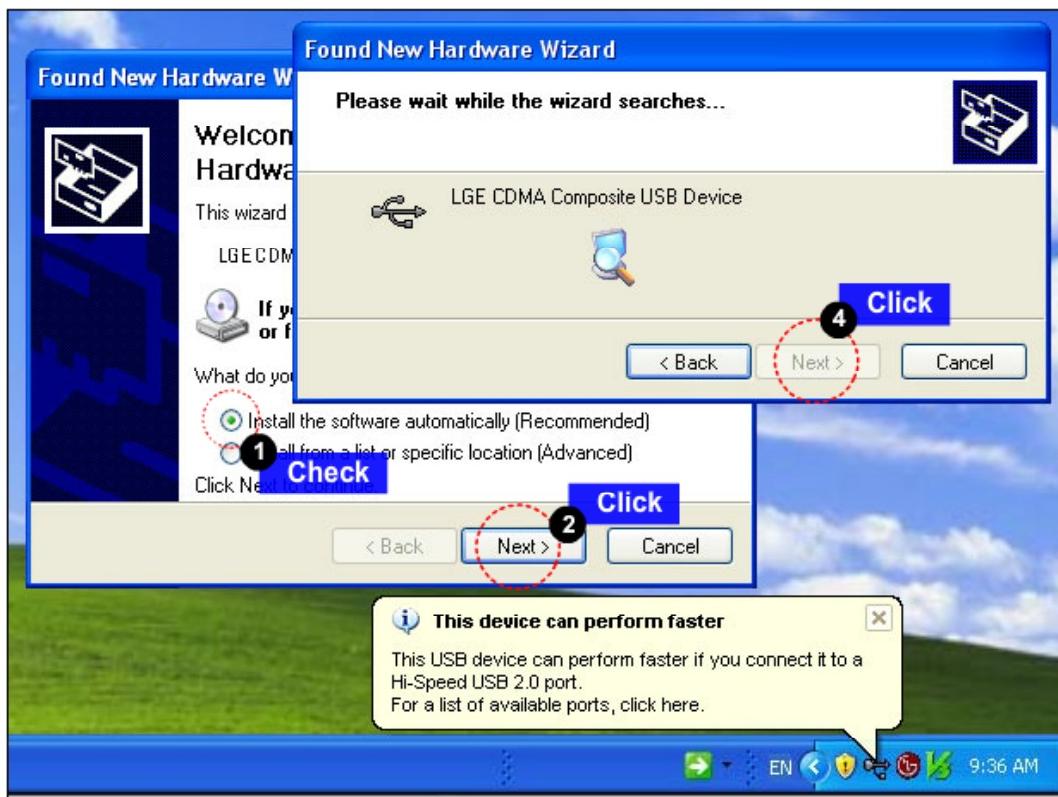


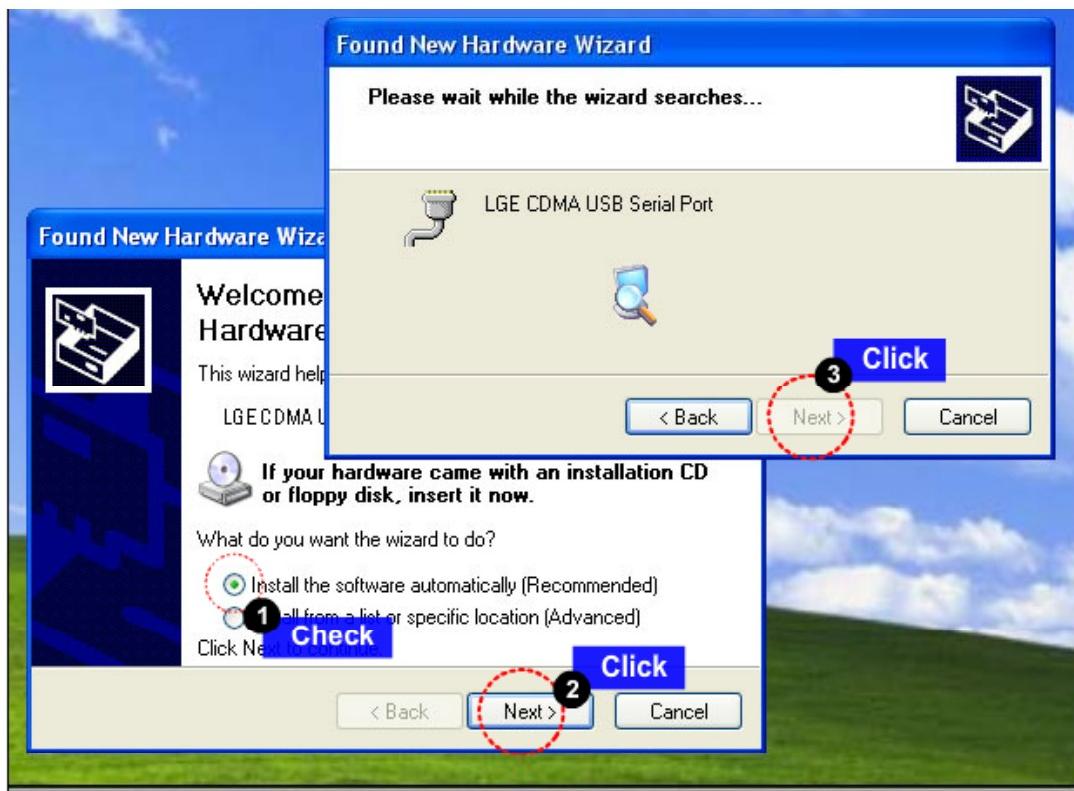
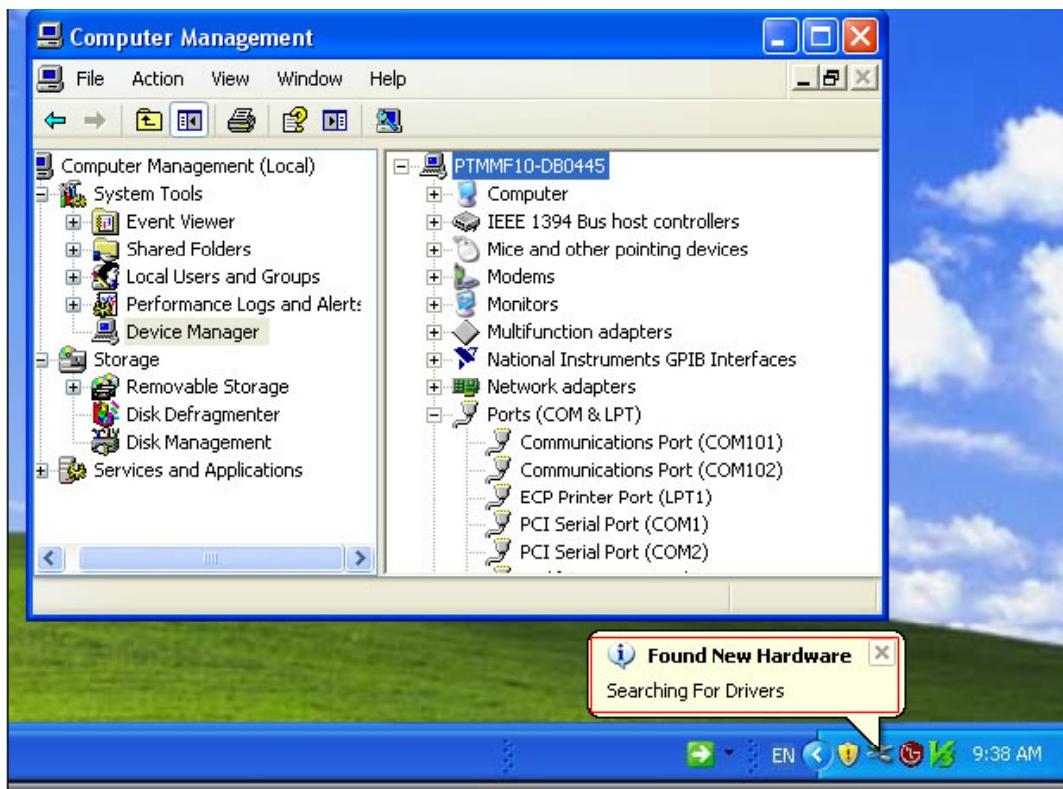
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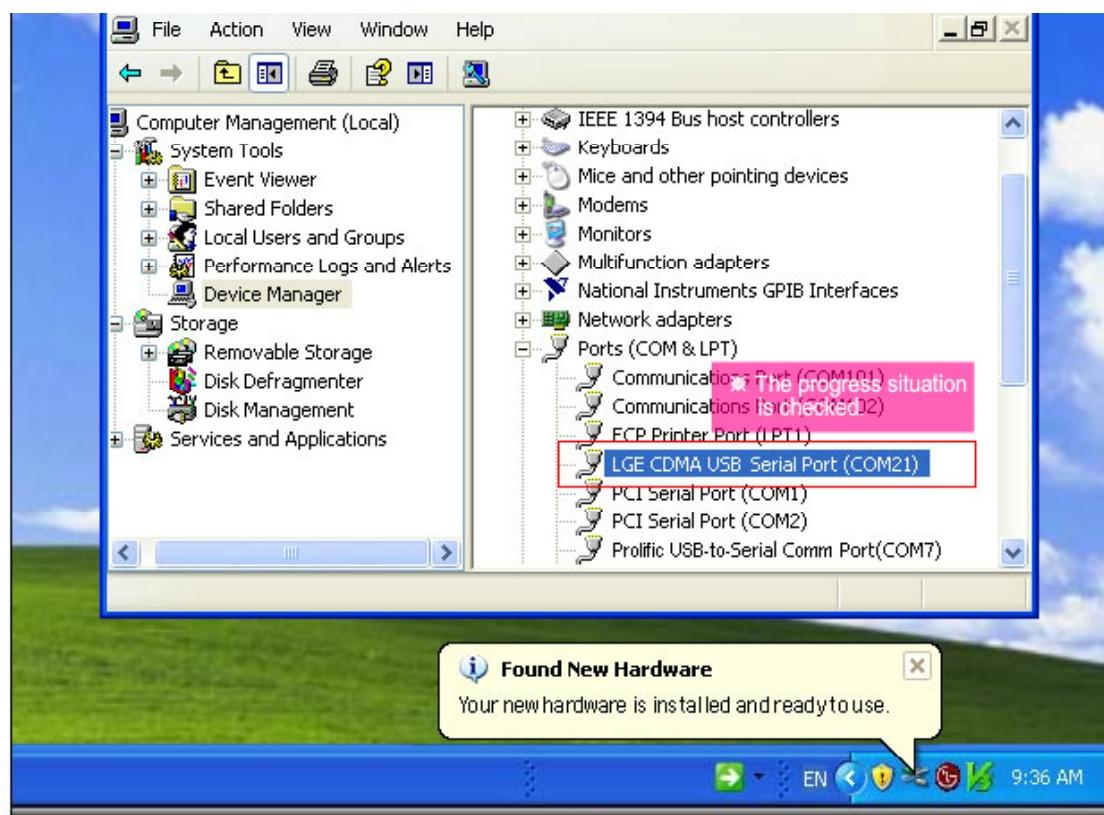
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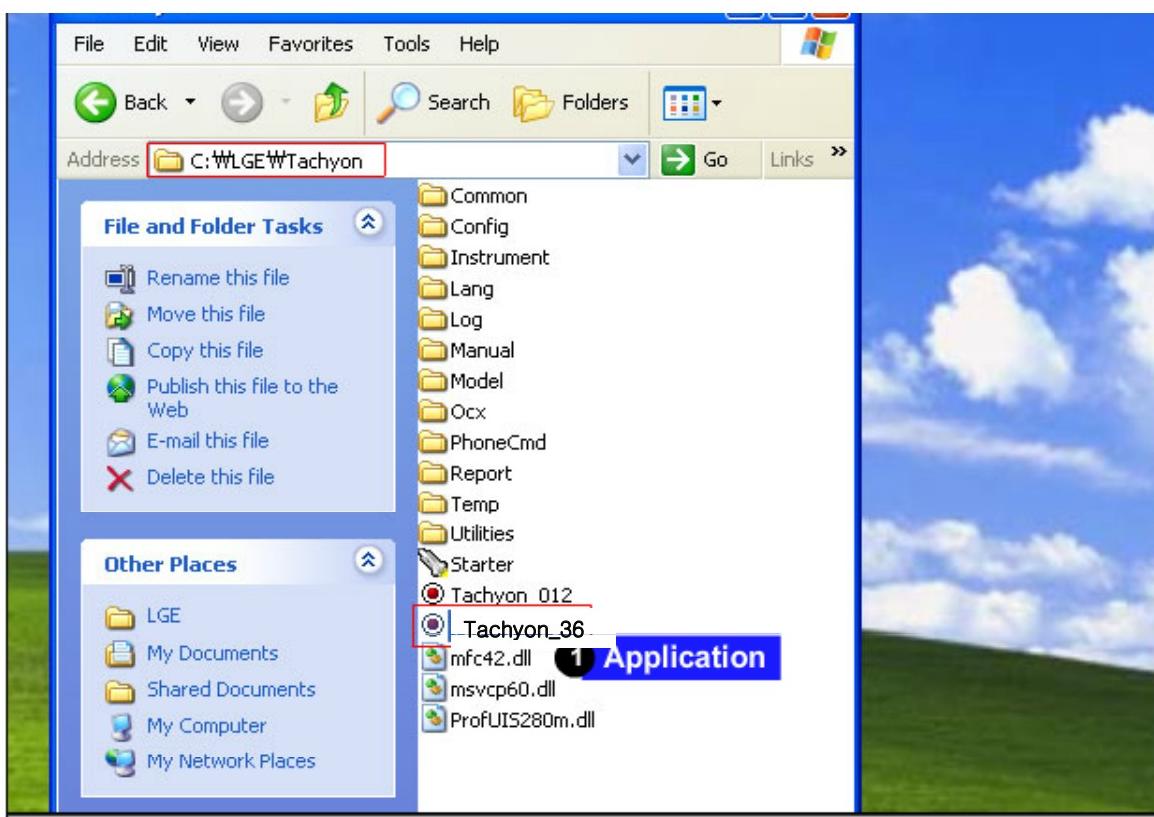
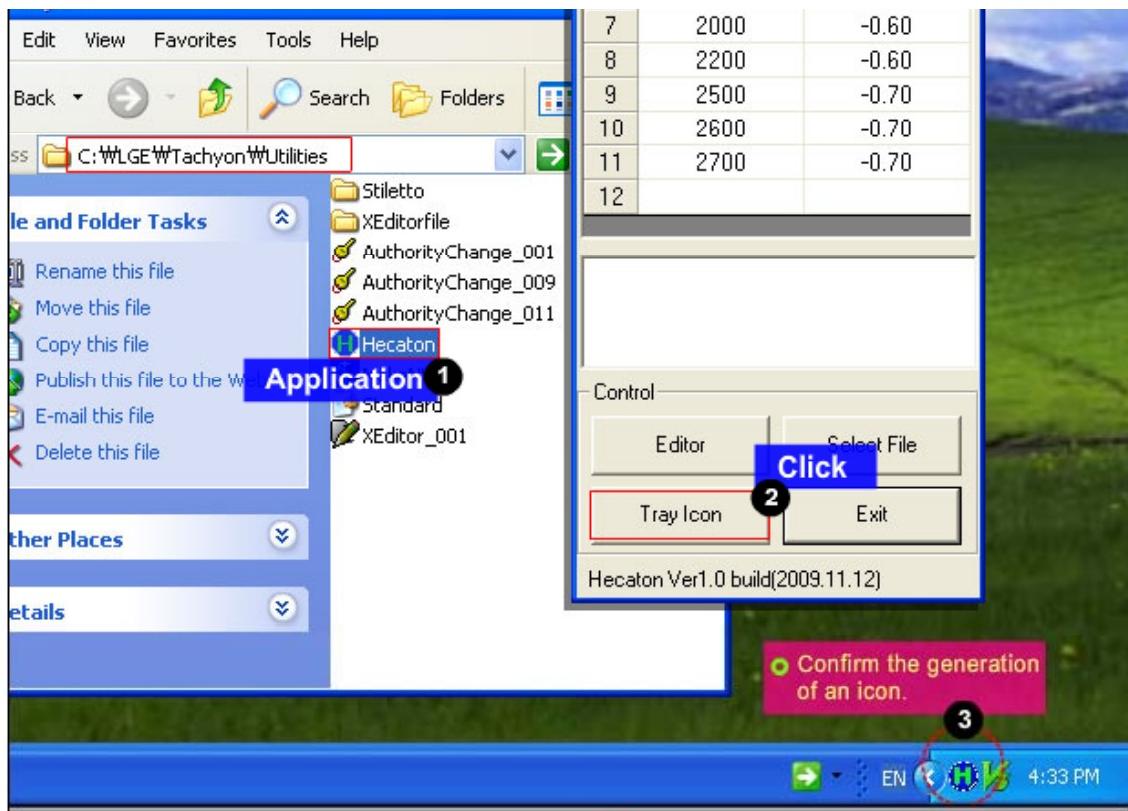




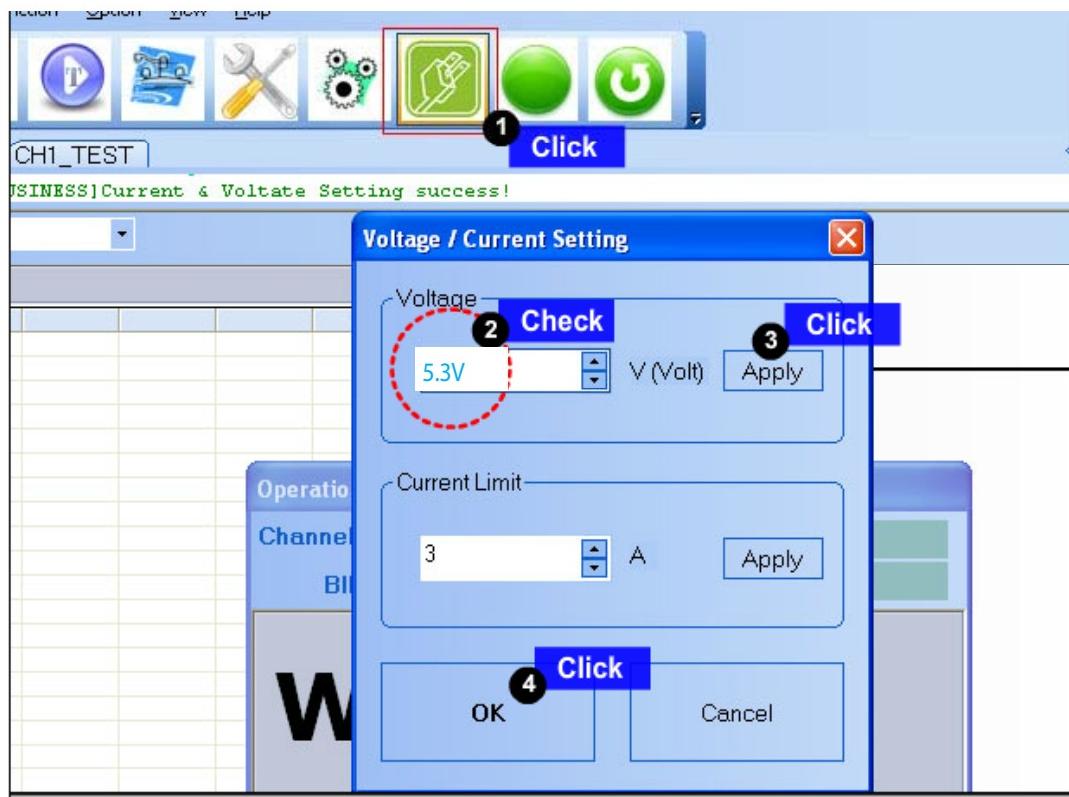
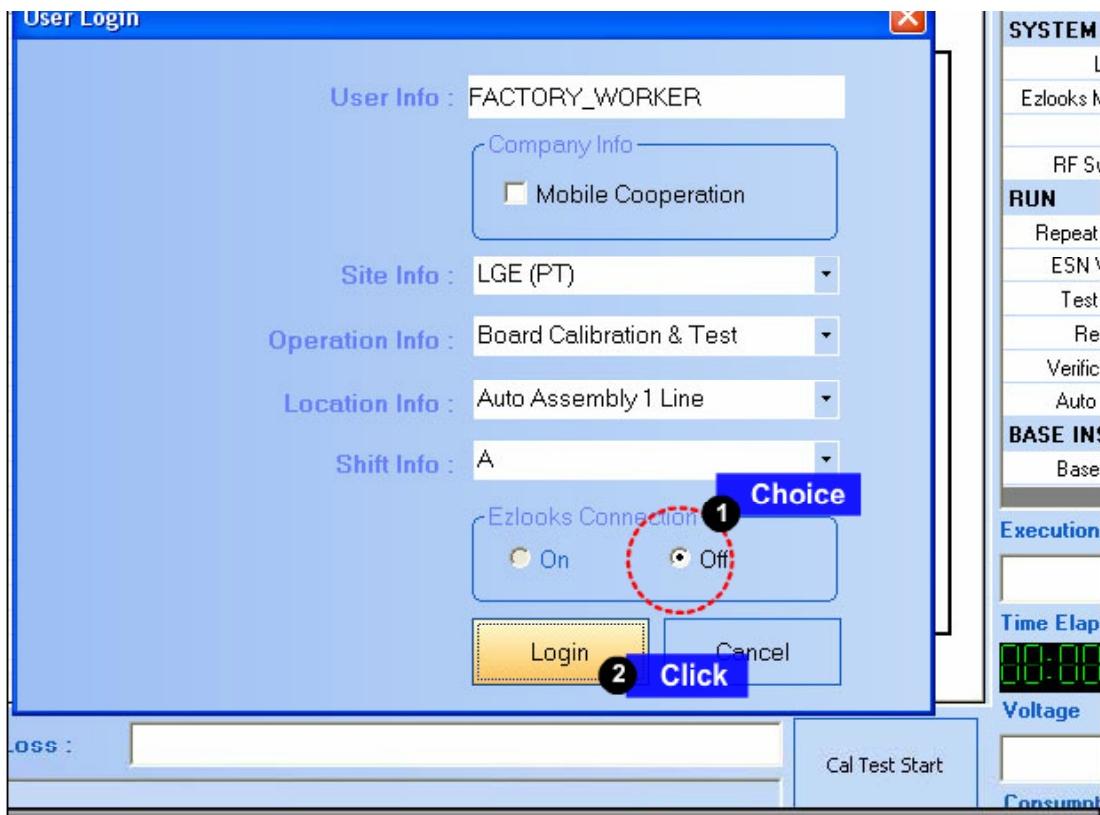
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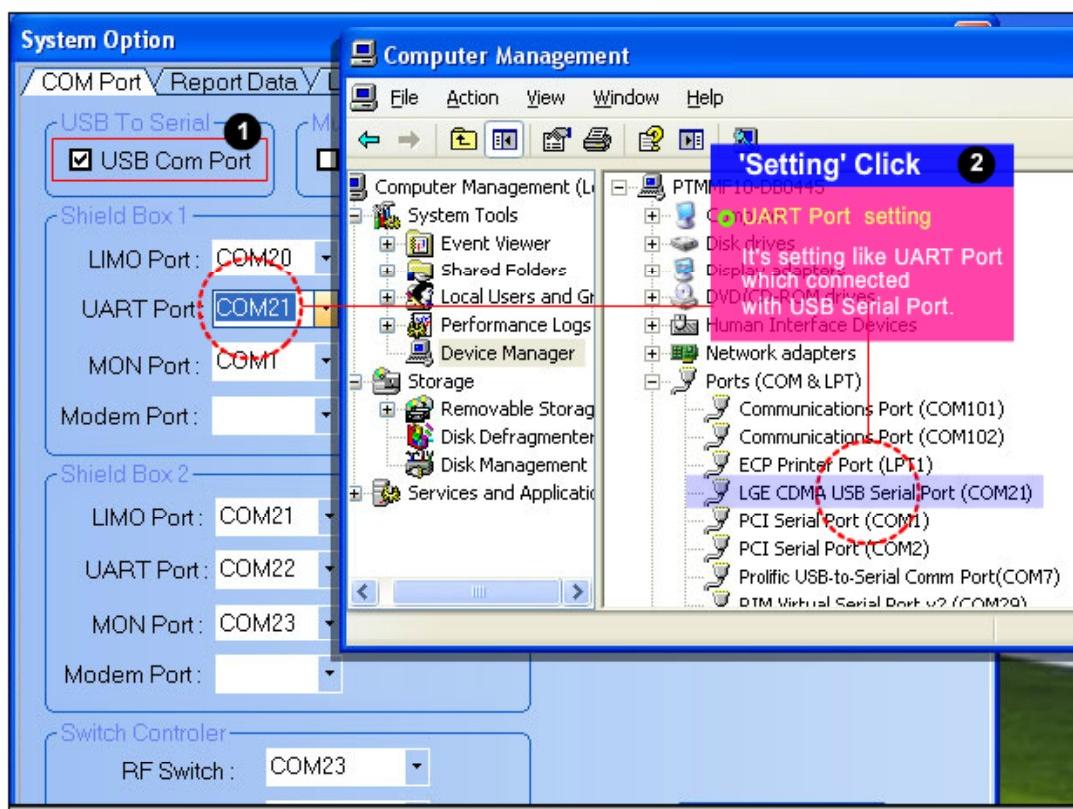
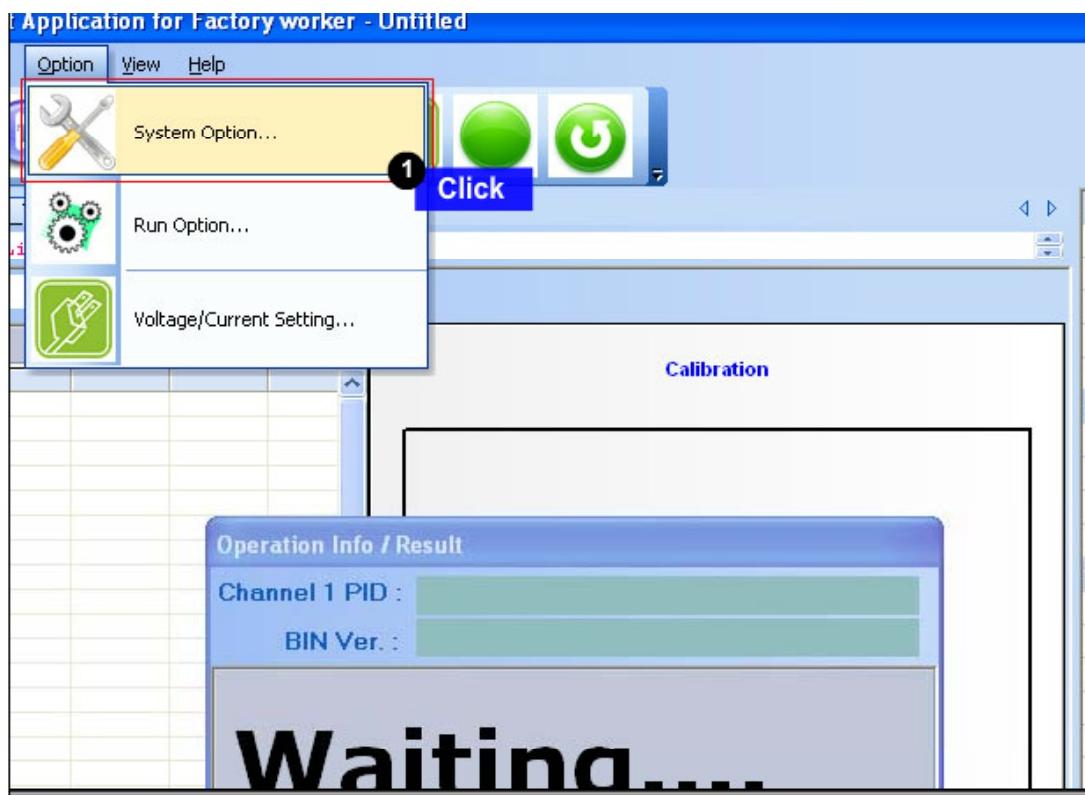


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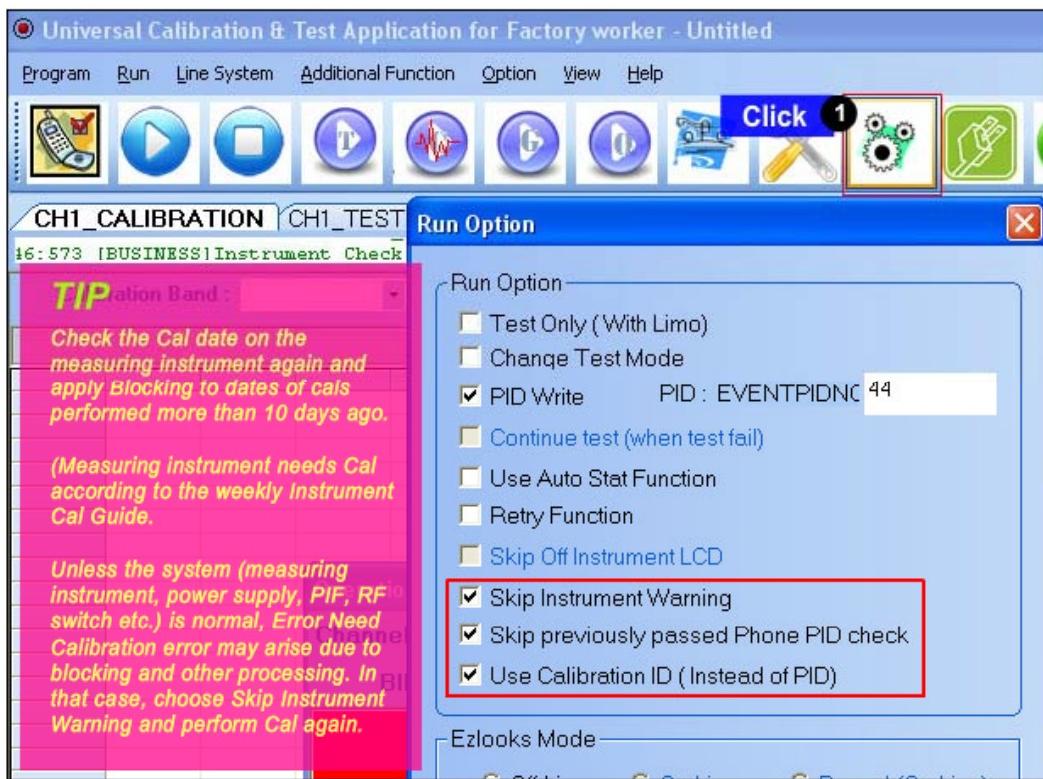
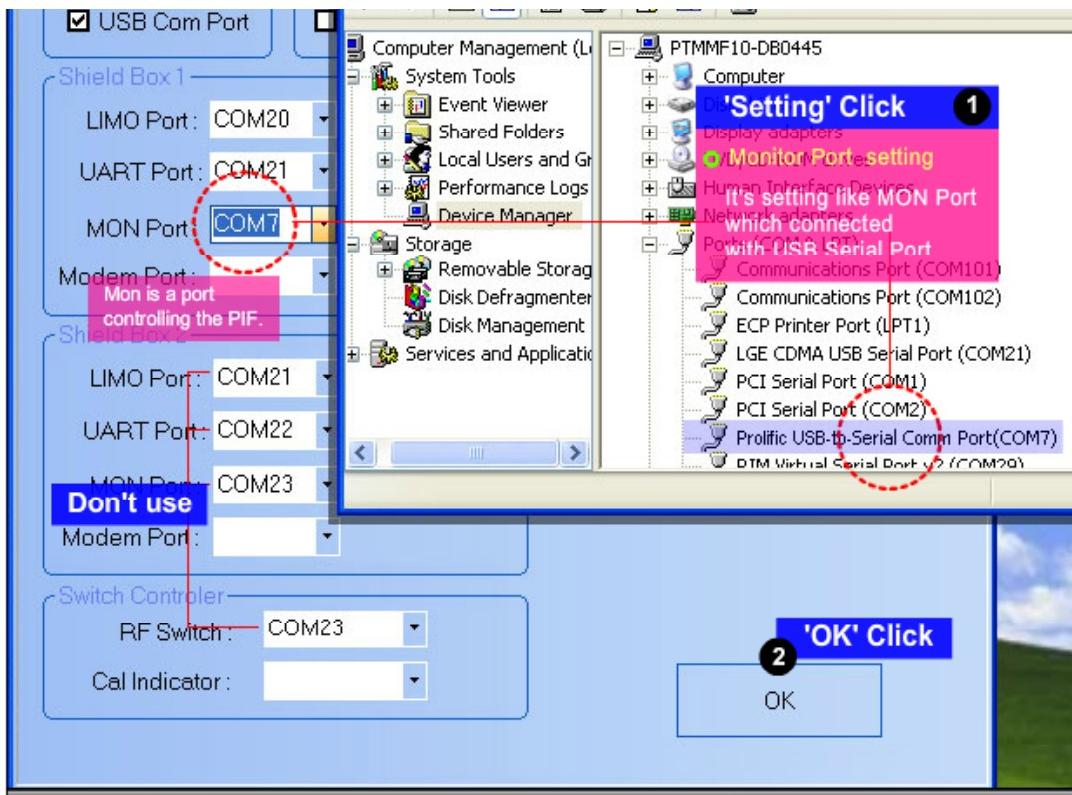


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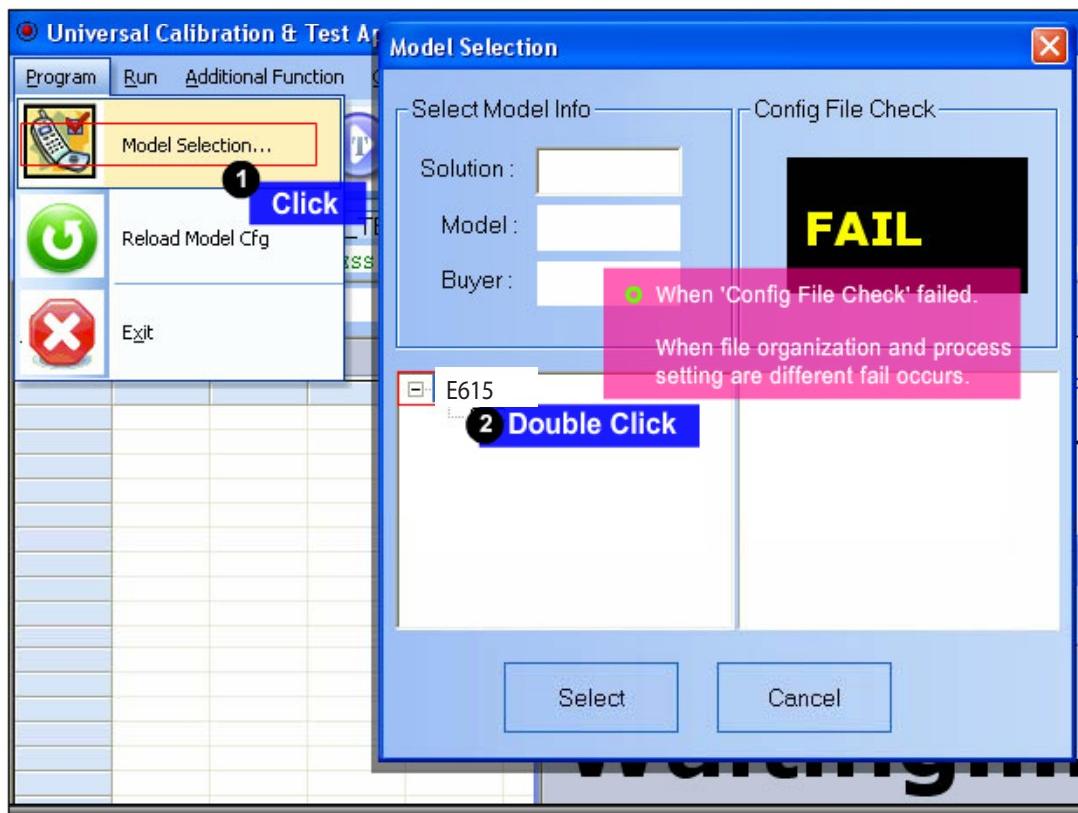
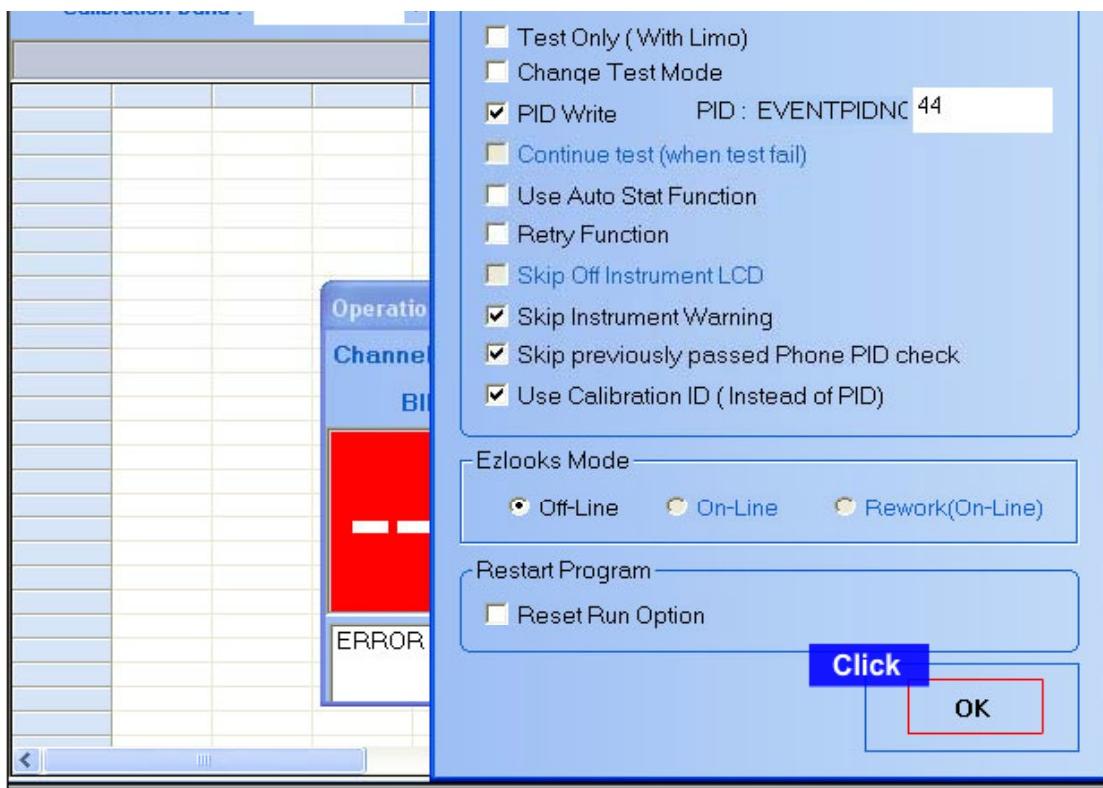




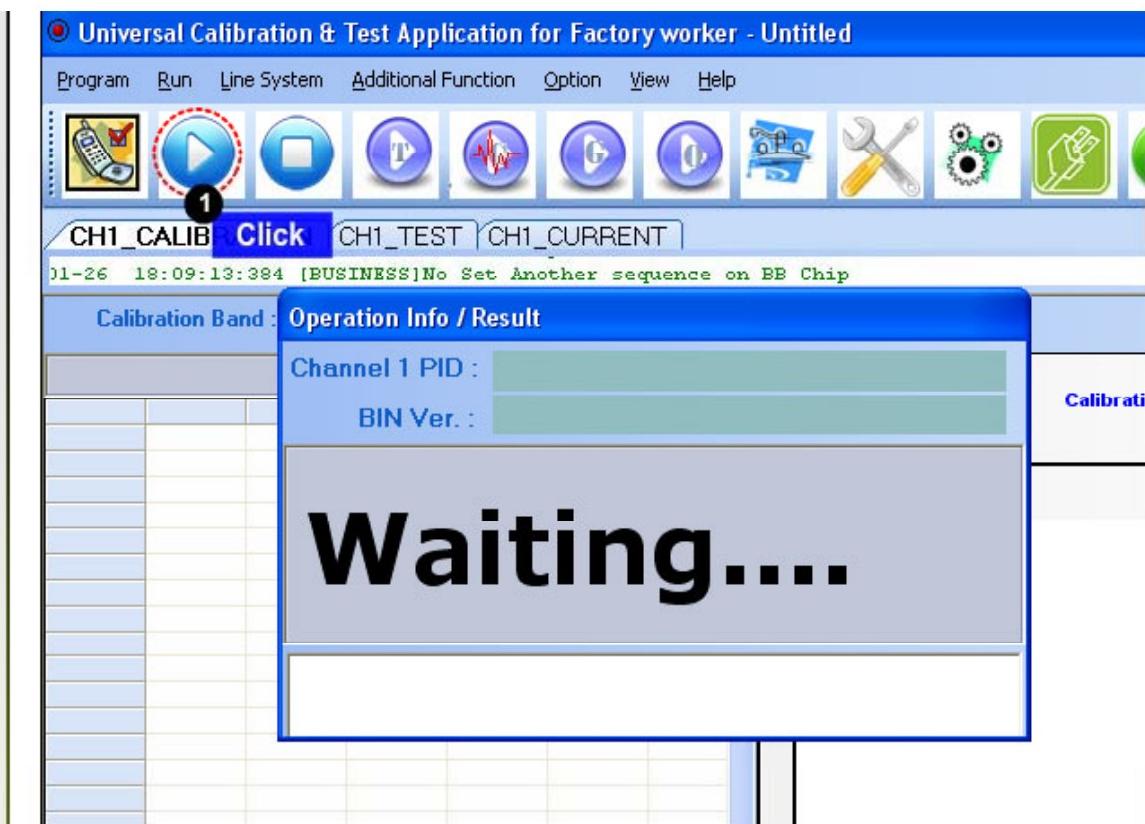
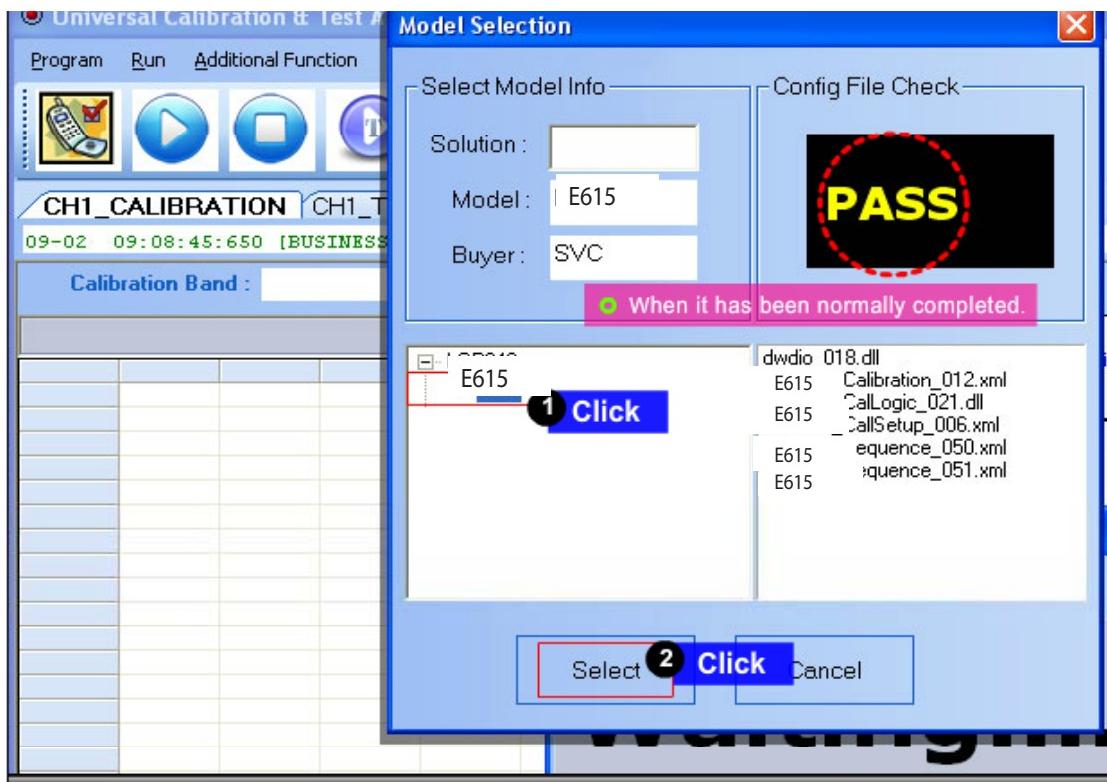
## 10. CALIBRATION



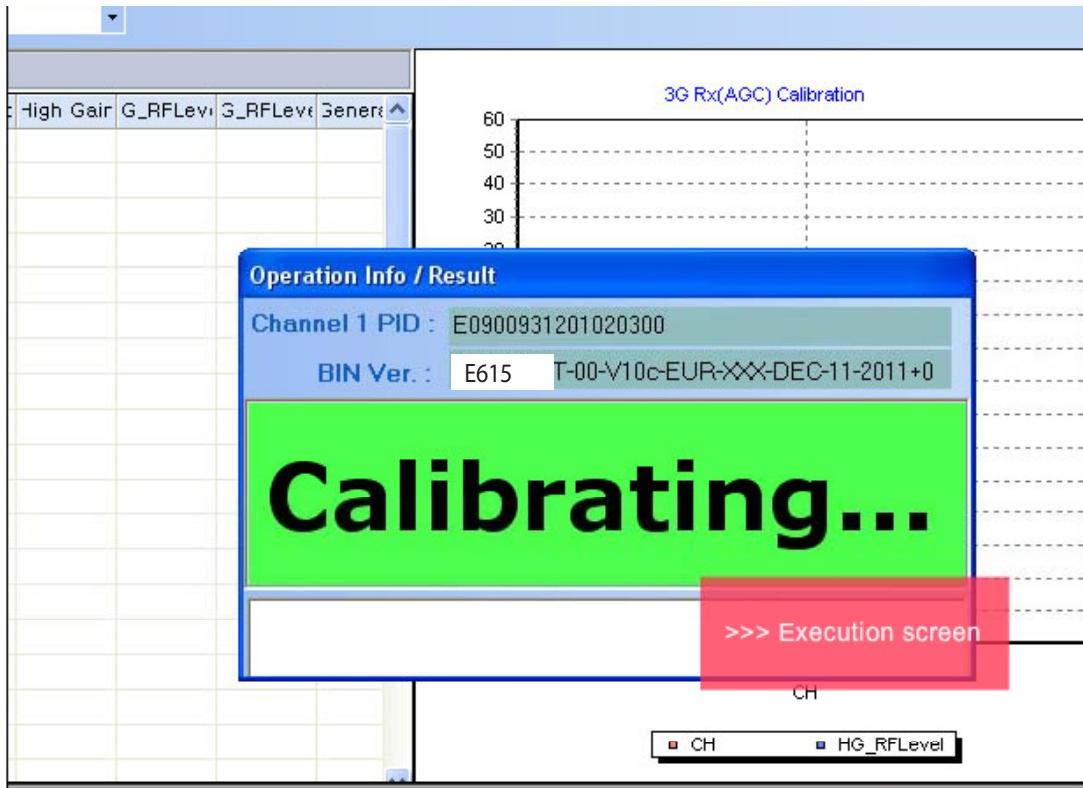
## 10. CALIBRATION



## 10. CALIBRATION



## 10. CALIBRATION



				CH01	CH02	CH03	
				10562	10700	10838	PASS
MARGIN	NC		23,7	22,3	23,000	22,963	22,976
	SEGMENT-F		-0,4	-1,6		-1,148	
	SEGMENT						
	SEGMENT						
H							
LEAKAGE RAT	NC						
	ACLR-5MHz						
	ACLR+5MHz						
	ACLR-10MHz						
	ACLR+10MHz						
MASK	NC						
	EVM-20DBM		17,50	0,00	4,933		
	PCDE-20DBM		-15,00	0,00	-38,716		

The screenshot shows a software window with a table of test results. A large green box in the center displays the text "Auto Testing". Below this box is a red button labeled ">>> Execution screen". The table includes columns for CH01, CH02, and CH03, and rows for various test parameters like MARGIN, SEGMENT-F, and MASK. The "EVM-20DBM" row has values 17,50, 0,00, and 4,933 respectively. The "PCDE-20DBM" row has values -15,00, 0,00, and -38,716 respectively.

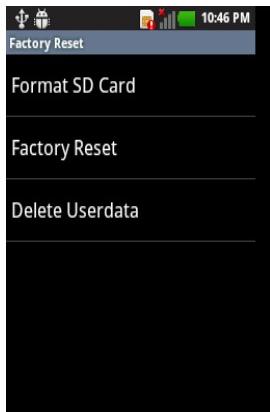
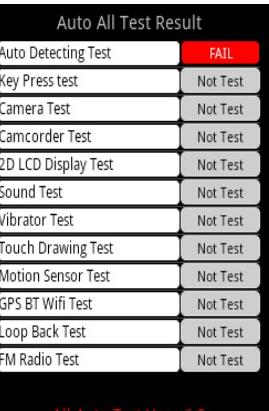
## 10. CALIBRATION

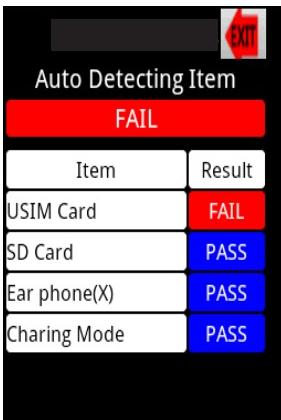
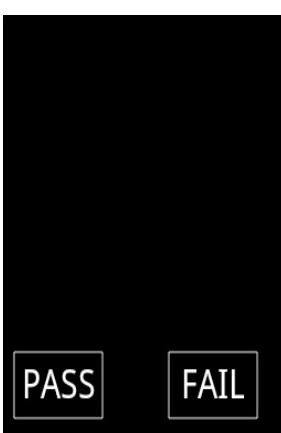
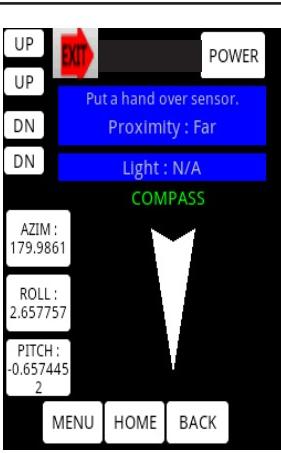
				10562	10700	10838	PASS
				<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
R MARGIN	NC	23,7	22,3	23,065	22,983	23,013	
SEGMENT				<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
SEGMENT							
SEGMENT							
SEGMENT							
OTH	NC						
LEAKAGE RAT	ACLR-5M						
	ACLR+5M						
	ACLR-10M						
	ACLR+10M						
MASK	NC	0,5	-0,5	0,000	'PASS' The End	<input type="checkbox"/>	
Y	EVM-20DBM	17,50	0,00	4,720			
	PCDE-20DBM	-15,00	0,00	-38,441			
System Loss :	MySystem(MS)	.gms	RF900	6C.grf			

### 11. HIDDEN MENU

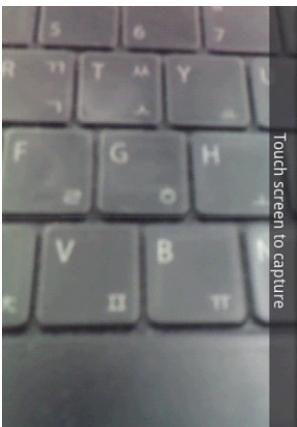
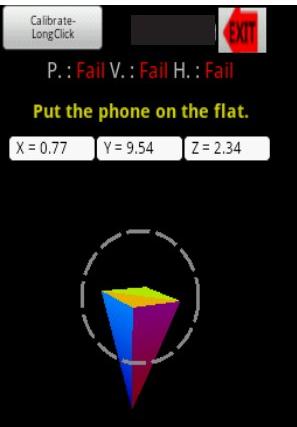
	<p><b>Hidden Menu Start</b> Start shortcut keys: 3845#*615#</p>
	<p><b>Hidden Menu</b> Start the desired menu: Menu, click</p>
	<p><b>Version Info</b> Classified Information representation -&gt; Hidden Menu -&gt; Settings -&gt; Version Info</p>

## 11. HIDDEN MENU

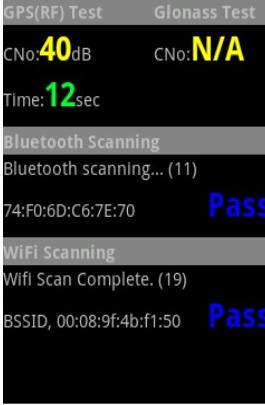
	 <p><b>Factory Reset</b> Format SD Card : SD Card Data reset Factory Reset : Reset as default Factory Settings Delete Userdata : Disabled -&gt; Hidden menu -&gt; WCDMA-Only -&gt; Factory Reset</p>																										
	<p><b>AAT Device Test</b> Allauto Test : -&gt; You can test all functions automatically</p>																										
 <table border="1"><thead><tr><th colspan="2">Auto All Test Result</th></tr></thead><tbody><tr><td>Auto Detecting Test</td><td>FAIL</td></tr><tr><td>Key Press test</td><td>Not Test</td></tr><tr><td>Camera Test</td><td>Not Test</td></tr><tr><td>Camcorder Test</td><td>Not Test</td></tr><tr><td>2D LCD Display Test</td><td>Not Test</td></tr><tr><td>Sound Test</td><td>Not Test</td></tr><tr><td>Vibrator Test</td><td>Not Test</td></tr><tr><td>Touch Drawing Test</td><td>Not Test</td></tr><tr><td>Motion Sensor Test</td><td>Not Test</td></tr><tr><td>GPS BT Wifi Test</td><td>Not Test</td></tr><tr><td>Loop Back Test</td><td>Not Test</td></tr><tr><td>FM Radio Test</td><td>Not Test</td></tr></tbody></table> <p>All Auto Test Ver : 6.5</p>	Auto All Test Result		Auto Detecting Test	FAIL	Key Press test	Not Test	Camera Test	Not Test	Camcorder Test	Not Test	2D LCD Display Test	Not Test	Sound Test	Not Test	Vibrator Test	Not Test	Touch Drawing Test	Not Test	Motion Sensor Test	Not Test	GPS BT Wifi Test	Not Test	Loop Back Test	Not Test	FM Radio Test	Not Test	<p><b>Auto All Test Result</b> -&gt; You can check Test Results</p>
Auto All Test Result																											
Auto Detecting Test	FAIL																										
Key Press test	Not Test																										
Camera Test	Not Test																										
Camcorder Test	Not Test																										
2D LCD Display Test	Not Test																										
Sound Test	Not Test																										
Vibrator Test	Not Test																										
Touch Drawing Test	Not Test																										
Motion Sensor Test	Not Test																										
GPS BT Wifi Test	Not Test																										
Loop Back Test	Not Test																										
FM Radio Test	Not Test																										

	<p><b>Auto Detecting Item</b></p> <p>Check below Items</p> <p>USIM Card : connecting is PASS -&gt; SD Card : connecting is PASS -&gt; Ear Phone : <b>No</b> connecting is PASS -&gt; Charging Mode : connecting is PASS</p>
	<p><b>2D LCD Display Test</b></p> <p>Check Black &amp; White Color</p>
	<p><b>Key Press Test</b></p> <p>Check below Items</p> <p>Up/Down key : Hard Key Power key : Hard Key Menu key : Touch Key Home key : Hard Key Back key : Touch Key Compass Sensor : Check North Proximity Sensor : Blind the Proximity sensor</p>

	<p><b>Touch Drawing Test</b> Draw a guide line</p>
	<p><b>Sound Test</b> Touch the "Play" icon</p>
	<p><b>Vibrator Test</b> Touch the "Start" icon</p>

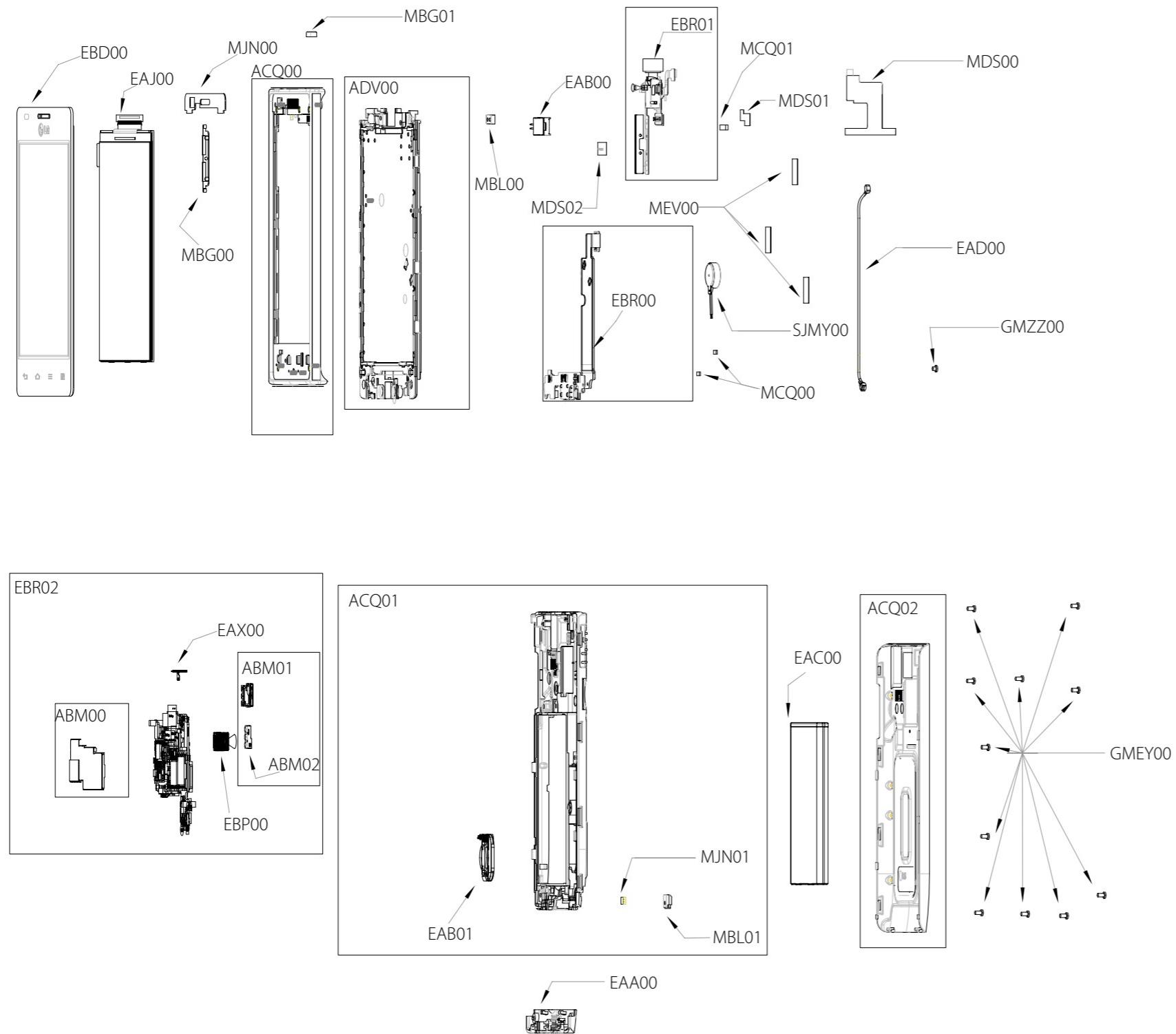
	<p><b>Camera Test – Snapshot</b> Touch screen to capture</p>
	<p><b>Camera Test - Camcoding</b> Camera is recording for 5 seconds</p>
	<p><b>Motion Sensor Test</b> Check 3 positions -&gt; Position horizontally -&gt; Position Vertically -&gt; Position side</p>

## 11. HIDDEN MENU

	<p><b>GPS BT WiFi Test</b></p> <p>GPS(RF) test : CNO is some value : OK Bluetooth Scanning is PASS : OK WiFi Scanning is PASS : OK</p>
	<p><b>Sound Loopback Test</b></p> <p>"Look Back On" is test mode on "Look Back OFF" is test mode off</p>
	<p><b>FM Radio Test</b></p> <p>87.5 Mhz is scanned automatically -&gt; Connect ear-jack -&gt; Touch "FM Radio Off" icon</p>

## 12. EXPLODED VIEW &amp; REPLACEMENT PART LIST

## 12.1 EXPLODED VIEW(SBOM)



Location	Description
EAD00	Cable,Assembly
EAJ00	LCD Module
MEV00	Insulator
MDS00	Gasket
MDS01	Gasket
EBD00	Touch Window Assembly
EBR00	PCB Assembly,Flexible
EBR01	PCB Assembly,Flexible
SJMY00	Motor,DC
EAB00	Receiver
ACQ00	Cover Assembly,Front
MBG00	Button,Side
MBG01	Button
MJN00	Tape,Window
ADV00	Frame Assembly
GMZZ00	Screw,Machine
MBL00	Cap
MCQ00	Damper
MCQ01	Damper
MDS02	Gasket
EAA00	PIFA Antenna,Multiple
ACQ01	Cover Assembly,Rear(SVC)
MBL01	Cap
MJN01	Tape
EAB01	Speaker,Dual Mode
GMEY00	Screw,Machine
EBR02	PCB Assembly,Main
EBP00	Camera Module
EAX00	PCB,Flexible
ABM00	Can Assembly,Shield
ABM01	Can Assembly,Shield
ABM02	Can Assembly,Shield
ACQ02	Cover Assembly,Battery
EAC00	Rechargeable Battery,Lithium Ion

## 12. EXPLODED VIEW & REPLACEMENT PART LIST

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### 12.2 Replacement Parts <Mechanic component>

**Note:** This Chapter is used for reference, Part order is ordered by SBOM standard on GCSC

Level	LocationNo.	Description	PartNumber	Spec	Remark
1	AGQ000000	Phone Assembly	AGQ86946001	LGE615.ACISBK ZY:Color Unfixed -	
2	MEZ002100	Label,Approval	MLAA0062305	COMPLEX KB770 DEUBK ZZ:Without Color -	
2	ACQ100400	Cover Assembly,EMS	ACQ86249301	LGE615.ACISBK BK:BLACK BLACK -	
3	ACQ003400	Cover Assembly,Bar	ACQ86299401	LGE615.ACISBK ZY:Color Unfixed -	
4	MEZ000000	Label	MLAZ0038303	COMPLEX LG-LC3200 WA:White PRINTING, PPRI PRINTING	
4	MJN061101	Tape,Protect	MJN68326902	COMPLEX LGE615.ACISBK ZZ:Without Color USP (CIS / Middle Asia / China)	
4	MJN061100	Tape,Protect	MJN68171401	COMPLEX LGE610.ADEUBK ZY:Color Unfixed PROTECTION_BAR	
4	MJN089301	Tape,Window	MJN68103102	COMPLEX LGE615F.ABRABK ZZ:Without Color -	
4	MEV00	Insulator	MEV64211801	COMPLEX LGE610.ADEUBK ZY:Color Unfixed INSULATOR_RF_CABLE	
4	MDS00	Gasket	MDS64130201	COMPLEX LGE615F.ABRABK ZZ:Without Color -	
4	MDS01	Gasket	MDS64018901	COMPLEX LGE610.ADEUBK ZY:Color Unfixed GASKET_RECEIVER_BOTTOM	
7	CN11003 CN11004	Contact	MCE62253601	COMPLEX LG615F.ASPRZY ZZ:Without Color -	
4	ACQ00	Cover Assembly,Front	ACQ85994001	LGE615F.ABRABK ZY:Color Unfixed -	
5	MDJ000003	Filter	MDJ63427301	COMPLEX LGE610.ADEUBK ZY:Color Unfixed MIC1	
5	MDJ000004	Filter	MDJ63544901	COMPLEX LGE610.ATLSBK BK:Black -	
5	MHK000000	Sheet	MHK63865801	COMPLEX LGE615F.ABRABK ZY:Color Unfixed -	

## 12. EXPLODED VIEW & REPLACEMENT PART LIST

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Level	LocationNo.	Description	PartNumber	Spec	Remark
5	MHK000001	Sheet	MHK63870001	COMPLEX LGE615F.ABRABK ZY:Color Unfixed -	
5	MDJ000001	Filter	MDJ63427101	COMPLEX LGE610.ADEUBK ZY:Color Unfixed RECEIVER_INNER	
5	MCQ000000	Damper	MCQ67130701	COMPLEX LGE610.ATLSBK BK:Black -	
5	MBG00	Button,Side	MBG64569301	COMPLEX LGE610.ADEUBK ZY:Color Unfixed -	
5	MBG01	Button	MBG64530301	COMPLEX LGE610.ADEUBK ZY:Color Unfixed -	
5	MJN00	Tape,Window	MJN68140101	COMPLEX LGE610.ADEUBK ZY:Color Unfixed Tape,Window2	
5	MDJ000005	Filter	MDJ63564601	COMPLEX LGE615F.ABRABK ZZ:Without Color -	
5	ACQ033200	Cover Assembly Front(Sub)	ACQ86134601	LGE615F.ABRABK ZY:Color Unfixed -	
6	MET099500	INSERT,NUT	MICE0016905	MECH_COMMON ZY,ZZ,PRESS, STS, , , ,	
6	MCK032700	Cover,Front	MCK67161601	COMPLEX LGE615F.ABRABK ZY:Color Unfixed -	
5	MJN061101	Tape,Protect	MJN68267701	COMPLEX LGE610.ADEUBK ZY:Color Unfixed TAPE_PROTECTION_L	
5	MJN061103	Tape,Protect	MJN68171201	COMPLEX LGE610.ADEUBK ZY:Color Unfixed TAPE_PROTECTION_FRONT_BOTT	
5	MJN061102	Tape,Protect	MJN68156801	COMPLEX LGE610.ADEUBK ZY:Color Unfixed TAPE_PROTECTION_FRONT_TOP	
5	MJN061100	Tape,Protect	MJN68155401	COMPLEX LGE610.ADEUBK ZY:Color Unfixed TAPE_PROTECTION_R	
4	ADV00	Frame Assembly	ADV74327801	LGE615F.ABRABK ZY:Color Unfixed -	
5	MDS000005	Gasket	MDS64150101	COMPLEX LGE615F.ABRABK ZZ:Without Color -	
5	MDS000001	Gasket	MDS64010901	COMPLEX LGE610.ADEUBK ZY:Color Unfixed FPCB_KEY_GASKET	
5	MDS000000	Gasket	MDS63978301	COMPLEX LGE610.ADEUBK ZY:Color Unfixed camera	

## 12. EXPLODED VIEW & REPLACEMENT PART LIST

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Level	LocationNo.	Description	PartNumber	Spec	Remark
5	MCQ000000	Damper	MCQ67129601	COMPLEX LGE610.ATLSBK GL:GRAY LINE -	
5	ADV076900	Frame Assembly,Sub	ADV74312601	LGE615F.ABRABK ZY:Color Unfixed -	
6	MDQ000000	Frame	MDQ63303301	COMPLEX LGE615F.ABRABK ZY:Color Unfixed -	
6	MET099500	INSERT,NUT	MICE0016904	MECH_COMMON ZY,ZZ,PRESS, STS, , , ,	
6	MDQ000002	Frame	MDQ63199303	PRESS STS 304 0.4 LGE615F.ABRABK ZY:Color Unfixed E615	
5	MDS000004	Gasket	MDS64051901	COMPLEX LGE610.ADEUBK ZY:Color Unfixed SHIELD_FOAM_ESD	
5	MJN000000	Tape	MJN68152801	COMPLEX LGE610.ADEUBK ZY:Color Unfixed EAR_JACK_TAPE	
4	GMZZ00	Screw,Machine	GMZZ0019003	GMZZ0019003 FH + 1.4mM 1.5mM MSWR FZB N - SERVEONE CO., LTD.	
4	MBL00	Cap	MBL65265501	COMPLEX LGE610.ADEUBK ZY:Color Unfixed PROXIMITY	
4	MCQ00	Damper	MCQ67029201	COMPLEX LGE610.ADEUBK ZY:Color Unfixed PAD_FPCB_KEY_FRONT	
4	MCQ01	Damper	MCQ67125801	COMPLEX LGE610.ADEUBK ZY:Color Unfixed PAD_T/W_FPCB	
4	MCQ000003	Damper	MCQ67208001	COMPLEX LGE610.ADEUBK BK:Black -	
4	MDS02	Gasket	MDS64010601	COMPLEX LGE610.ADEUBK ZY:Color Unfixed LCD_FPCB_GASKET_1	
3	ACQ063300	Cover Assembly,Rear	ACQ85994101	LGE615F.ABRABK ZY:Color Unfixed -	
4	ACQ01	Cover Assembly Rear(SVC)	ACQ86102801	LGE615F.ABRABK ZY:Color Unfixed -	
5	MKC009400	Window,Camera	MKC64301501	COMPLEX LGE610.ADEUBK ZY:Color Unfixed -	
5	MHK000001	Sheet	MHK63865601	COMPLEX LGE610.ADEUBK ZY:Color Unfixed INSULATOR_SUB_ANTENNA_1	
5	MHK000000	Sheet	MHK63795501	COMPLEX LGE610.ADEUBK ZY:Color Unfixed SHEET, MS	

## 12. EXPLODED VIEW & REPLACEMENT PART LIST

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Level	LocationNo.	Description	PartNumber	Spec	Remark
5	MFB029600	Lens,Flash	MFB62874001	COMPLEX LGE610.ADEUBK ZY:Color Unfixed -	
5	MEZ000900	Label,After Service	MEZ64319901	COMPLEX LGF120L.ALGTWA ZZ:Without Color F120I AS Label	
5	MDJ000000	Filter	MDJ63446501	COMPLEX LGE610.ADEUBK ZY:Color Unfixed DECO_SPEAKER	
5	MCQ000003	Damper	MCQ67224601	COMPLEX LGE615F.ABRABK ZZ:Without Color -	
5	MCQ000004	Damper	MCQ67224501	COMPLEX LGE615F.ABRABK ZZ:Without Color REAR_RF_CABLE	
5	MCQ000002	Damper	MCQ67075701	COMPLEX LGE610.ADEUBK ZY:Color Unfixed PAD_TOUCHIC	
5	MCQ074200	Damper,Speaker	MCQ67002501	COMPLEX LGE610.ADEUBK ZY:Color Unfixed SPEAKER_TOP	
5	MCQ000000	Damper	MCQ66981001	COMPLEX LGE610.ADEUBK ZY:Color Unfixed LENS, FLASH	
5	MCQ000005	Damper	MCQ67206901	COMPLEX LGE615F.ABRABK ZZ:Without Color -	
5	MJN009401	Tape,Camera	MJN68141002	COMPLEX LGE615F.ABRABK ZZ:Without Color CAMERA_WIMDOW	
5	MCK063300	Cover,Rear	MCK67161701	COMPLEX LGE615F.ABRABK ZY:Color Unfixed -	
5	MCQ009400	Damper,Camera	MCQ66959001	COMPLEX LGE610.ADEUBK ZY:Color Unfixed CAMERA	
5	MCQ049800	Damper,Motor	MCQ66959101	COMPLEX LGE610.ADEUBK ZY:Color Unfixed MOTOR	
4	MBL01	Cap	MBL65204001	COMPLEX LGE610.ADEUBK ZY:Color Unfixed HOLDER_MIC	
4	MJN061100	Tape,Protect	MJN68350701	COMPLEX LGE610.ADEUBK BL:BLUE BLUE -	
4	MJN01	Tape	MJN68141201	COMPLEX LGE610.ADEUBK ZY:Color Unfixed HOLDER MIC	
3	GMEY00	Screw,Machine	GMEY0009201	GMEY0009201 BH + 2.7mM 3.5mM MSWR3 FZB N N LG ELECTRONICS INC.	

## 12. EXPLODED VIEW & REPLACEMENT PART LIST

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Level	LocationNo.	Description	PartNumber	Spec	Remark
5	MCQ000000	Damper	MCQ67125101	COMPLEX LGE610.ADEUBK ZZ:Without Color PAD_PCB_TOP	
5	ABM00	Can Assembly,Shield	ABM73896001	LGE615F.ABRABK ZZ:Without Color -	
6	MBK070300	Can,Shield	MBK63215101	COMPLEX LGE610.ADEUBK ZY:Color Unfixed Cover, Top, Top	
6	MHK000000	Sheet	MHK63851901	COMPLEX LGE615F.ABRABK ZZ:Without Color -	
6	MEV000000	Insulator	MEV64086401	COMPLEX LGE610.ADEUBK ZZ:Without Color TOP_COVER_INSULATOR	
5	ABM01	Can Assembly,Shield	ABM73777602	LGE615F.ABRABK ZZ:Without Color Cover, Bottom, Top	
6	MDS000001	Gasket	MDS63977302	COMPLEX LGE615F.ABRABK ZY:Color Unfixed T/W FPCB GASKET	
6	MBK070300	Can,Shield	MBK63215201	COMPLEX LGE610.ADEUBK ZY:Color Unfixed -	
5	MHK000000	Sheet	MHK63947901	COMPLEX LGE610.ADEUBK BK:Black -	
5	MDS000000	Gasket	MDS64075201	COMPLEX LGE610.ADEUBK ZY:Color Unfixed CAMERA_GASKET	
5	MEZ000000	Label	MLAZ0038301	COMPLEX LG-VX6000 ZZ:Without Color PID Label 4 Array PRINTING,	
6	ABM02	Can Assembly,Shield	ABM73817201	LGE610.ADEUBK WT:WHITE TITAN -	
6	SC7002	Can,Shield	MBK63234401	COMPLEX LGE610.ADEUBK ZY:Color Unfixed Frame, Bottom, Top	
6	CN7001 CN7002 CN7003 CN7007 CN7008 CN7009 CN7010	Clip	MCGY0003801	COMPLEX LG-KH3900 KTF ZZ:Without Color -	
6	SC7001	Can,Shield	MBK63214901	COMPLEX LGE610.ADEUBK ZY:Color Unfixed Frame, Top, Top	
6	ANT9002	Contact	MCIZ0008501	COMPLEX LG-T310 VIVBK ZZ:Without Color PRESS, BeCu, , 3.5, 2.0, 1.5,	

## 12. EXPLODED VIEW & REPLACEMENT PART LIST

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Level	LocationNo.	Description	PartNumber	Spec	Remark
1	AGF000000	Package Assembly	AGF76561064	LGE615.ACISBK ZZ:Without Color LGE615 CIS(S8T/800ea/CIS UB/CIS UB Label/CIS Pallet Type)	
2	MEZ084100	Label,Unit Box	MEZ64571201	COMPLEX LGP725.ACISBK WW:SNOW WHITE Seal Label_CIS For Only	
2	MFZ005500	Packing,Blister	MFZ63334404	MOLD PS LGE610.ADEUBK ZZ:Without Color LGE610 PS Tray	
2	MEZ003501	Label,Barcode	MLAC0004538	PRINTING KG275 PLSBK ZZ:Without Color CIS only_Korea_Peel_unit box label_90x40	
2	MEZ047200	Label,Master Box	MLAJ0004402	PRINTING CG300 CGR DG ZZ:Without Color LABEL MASTER BOX(for CGR TDR 2VER. mbox_label) GSM standard_master box label	
2	MEZ000000	Label	MLAZ0050901	COMPLEX KU990.AGBRBK ZZ:Without Color Battery Warning Label (Lithium ion Battery Label)	
2	MAY047100	Box,Master	MBEE0061004	COMPLEX LGE730.ANLDKT ZZ:Without Color S6T_STD Master Box(10EA)	
2	MAY084000	Box,Unit	MAY65612641	BOX TW 148 57 94 MULTI COLOR LGE615.ACISBK ZZ:Without Color LG-E615 CIS Unit box(S8T/RUSSIAN+KAZAKH+UKRAINIAN)	
2	AGJ000001	Pallet Assembly	AGJ73458304	LGE510.ACISBK ZZ:Without Color S6T Type_CIS Body+Cap+AL(1200x800x800)_480EA	
3	MAY010800	Box,Carton	MBEC0004405	COMPLEX LGE730.ACISBK ZZ:Without Color S6T-CIS Body(480EA/h:800 under/1200*800)	
3	MBL007000	Cap,Box	MCCL0002604	COMPLEX LGE730.ANLDKT ZZ:Without Color S6T-STD Cap(800EA/1200*800)	
3	MGA000000	Pallet	MPCY0012403	COMPLEX KG800 FRABK DB:DARK BLUE -	
3	MCQ000000	Damper	MCQ66486911	COMPLEX LGE730.ACISBK ZZ:Without Color S6T-CIS Dead Space Sleeve(480EA/1200*800)	
1	AAD000000	Addition Assembly	AAD86195601	LGE615.ACISBK BK:BLACK BLACK -	
2	ACQ02	Cover Assembly,Battery	ACQ86298401	LGE615.ACISBK BK:BLACK BLACK -	

## 12. EXPLODED VIEW & REPLACEMENT PART LIST

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Level	LocationNo.	Description	PartNumber	Spec	Remark
3	MCK004100	Cover,Battery	MCK67489401	COMPLEX LGE615.ACISBK BK:BLACK BLACK -	
3	MJN061100	Tape,Protect	MJN68271002	COMPLEX LGE615F.ABRABK ZY:Color Unfixed protection_tape_battery	
2	MEZ002101	Label,Approval	MEZ64570001	CUTTING LAMI LGP940.ACISBK WA:White -	
2	MEZ002100	Label,Approval	MEZ64188201	COMPLEX LGA190.ACISBK ZZ:Without Color -	

## 12. EXPLODED VIEW & REPLACEMENT PART LIST

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### 12.2 Replacement Parts <Main component>

**Note:** This Chapter is used for reference, Part order is ordered by SBOM standard on GCSC

Level	LocationNo.	Description	PartNumber	Spec	Remark
4	EAD00	Cable,Assembly	EAD62121001	UFLVWFLHF04N2TC-A85.5ALG UFL-LP-066 UFL-LP-066 0.085M 2 WHITE N N HIROSE KOREA CO.,LTD	
4	EAJ00	LCD Module	EAJ62072101	LM400TN1A HVGA 4.0INCH 320X480 400CD COLOR 70% 4/3 400 60Hz Inverter N LED 2D - TOVIS	
4	EBD00	Touch Window Assembly	EBD61386701	TSMC-P401A CAPACITIVE TOUCH PFF Melfas MMS136 4.0 Inch B to B Dual SIM LG INNOTEK.,LTD.	
4	EBR00	PCB Assembly,Flexible	EBR76055801	LGE615F.ABRABK 1.0 Flexible	
5	EBR070400	PCB Assembly Flexible,SMT	EBR76130801	LGE615F.ABRABK 1.0 Flexible	
6	EBR070300	PCB Assembly Flexible,SMT Top	EBR76131001	LGE615F.ABRABK 1.1 Flexible	
7	L11002 L11003	Inductor Multilayer,Chip	ELCH0001403	LL1005-FHL1N0S 1NH 0.3NH - 400mA -- 0.1OHM 20GHZ 7 SHIELD NONE 1.0X0.5X0.5MM R/TP TOKO, INC.	
7	D11000	Diode,Switching	EDSY0010501	KDS114E 900mV 30V 100mA 1A 0SEC 0W ESC R/TP 2P 1 KEC CORPORATION	
7	LD11000 LD11001 LD11002 LD11003	LED,Chip	EDLH0015202	99-216UTC/TR8-1 WHITE 2.95~3.3 30mA 1440~1720mcd x, y 110mW - R/TP 2P - EVERLIGHT ELECTRONICS CO., LTD.	
7	C11003	Capacitor Ceramic,Chip	ECZH0000830	C1005C0G1H330JT000F 33pF 5% 50V NP0 - 55TO+125C 1005 R/TP - TDK KOREA COOPERATION	
7	L11000 L11001	Inductor Multilayer,Chip	ELCH0001430	LL1005-FHLR10J 100NH 5% - 150mA 2.2OHM 1.03GHZ 10 SHIELD NONE 1.0X0.5X0.5MM R/TP TOKO, INC.	
7	CN11000	Connector,BtoB	ENBY0056801	14-5804-024-000-829+ 24P 0.40MM STRAIGHT MALE SMD R/TP 900mM - KYOCERA ELCO KOREA SALES CO.,LTD.	

## 12. EXPLODED VIEW & REPLACEMENT PART LIST

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Level	LocationNo.	Description	PartNumber	Spec	Remark
7	VA11010 VA11011	Varistor	SEVY0003601	ICVL0505101V150FR 5.6V 0% 100pF 1.0*0.5*0.55 NONE SMD R/TP INNOCIPS TECHNOLOGY	
7	R11001 R11002 R11003 R11004	Resistor,Chip	ERHZ0000483	MCR01MZP5J470 47OHM 5% 1/16W 1005 R/TP - ROHM.	
7	EAX010700	PCB,Flexible	EAX64794501	LGE615F.ABRABK 1.0 POLYI Multi 4 0.3 Flexible	
7	FL11001	Filter,EMI/Power	SFEY0016301	ICMEF112P900M COMMON MODE NOISE FILTER 0HZ 0F 0H SMD R/TP INNOCIPS TECHNOLOGY	
7	FL11000	Filter,EMI/Power	SFEY0015301	NFM18PC104R1C3 ESD/EMI 0HZ 0.1uF 0H SMD R/TP MURATA MANUFACTURING CO.,LTD.	
7	FB6005 FB6006	Filter,Bead	SFBH0008101	BLM15AG601SN1D 600 ohm 1.0X0.5X0.5 25% 0.6 ohm 0.3A SMD R/TP 2P 0 MURATA MANUFACTURING CO.,LTD.	
7	VA11002 VA11003 VA11009	Varistor	SEVY0004301	ICVL0518100Y500FR 18V 0% 10F 1.0*0.5*0.55 NONE SMD R/TP INNOCIPS TECHNOLOGY	
7	R11006	Resistor,Chip	ERHY0000201	MCR01MZP5J000 0OHM 5% 1/16W 1005 R/TP - ROHM.	
6	EBR070200	PCB Assembly Flexible,SMT Bottom	EBR76130901	LGE615F.ABRABK 1.0 Flexible	
7	MIC11000	Microphone Condenser	SUMY0010616	SUMY0010616 FPCB,dB,1.1TO10V, KNOWLES ACOUSTICS	
7	SW11000	Connector,RF	ENWY0004001	W.FL-R-SMT-1(40) 0.40MM STRAIGHT SOCKET SMD R/TP AU 50OHM 1.3DB HIROSE KOREA CO.,LTD	
7	L11004	Inductor Multilayer,Chip	ELCH0004715	1005GC2T27NJLF 27NH 5% - 200mA 0.9OHM 1.4GHZ 8 SHIELD NONE 1.0X0.5X0.5MM R/TP PILKOR ELECTRONICS LTD.	
7	L11002 L11003	Inductor Multilayer,Chip	ELCH0001403	LL1005-FHL1N0S 1NH 0.3NH - 400mA -- 0.1OHM 20GHZ 7 SHIELD NONE 1.0X0.5X0.5MM R/TP TOKO, INC.	
7	ZD11000	Diode,TVS	EDTY0008602	PSD12-LF 12V 13.3 25.9V 21A 500W SOD323 R/TP 2P 1 PROTEK DEVICES INC.	

## 12. EXPLODED VIEW & REPLACEMENT PART LIST

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Level	LocationNo.	Description	PartNumber	Spec	Remark
7	C11002	Capacitor Ceramic,Chip	ECZH0000813	C1005C0G1H101JT 100pF 5% 50V C0G - 55TO+125C 1005 R/TP - TDK KOREA COOPERATION	
7	CN11001	Connector,I/O	EAG63090001	04-5161-005-100-868 7P 0.90MM ANGLE RECEPTACLE DIP R/TP Normal New IO Connector KYOCERA ELCO KOREA SALES CO.,LTD.	
7	L11005	Capacitor Ceramic,Chip	ECCH0000196	MCH155A0R75C 0.75pF 0.25PF 50V NP0 - 55TO+125C 1005 R/TP - - ROHM Semiconductor KOREA CORPORATION	
5	EBR070100	PCB Assembly Flexible,Insert	EBR76130701	LGE615F.ABRABK 1.0 Flexible	
4	EBR01	PCB Assembly Flexible	EBR76151901	LGE615F.ABRABK 1.0 Flexible	
5	EBR070400	PCB Assembly Flexible,SMT	EBR76163601	LGE615F.ABRABK 1.0 Flexible	
6	EBR070200	PCB Assembly Flexible,SMT Bottom	EBR75640701	LGE610.ADEUBK 1.0 Flexible	
7	C10000	Capacitor Ceramic,Chip	EAE62502901	CL05A106MP5NUNC 10uF 20% 10V X5R - 55TO+85C 1005 R/TP 0.55T max. SAMSUNG ELECTRO-MECHANICS CO., LTD.	
7	R10000 R10004	Resistor,Chip	ERHY0009502	MCR006YZPJ100 10OHM 5% 1/20W 0603 R/TP - ROHM.	
7	U10000	IC,Proximity	EUSY0376201	GP2AP002S00F GP2AP002S00F GP2AP002S00F,,8 ,R/TP , SHARP CORPORATION. SHARP CORPORATION.	
7	D10002	Diode,TVS	EDTY0008606	PRSB6.8C 4.7V 5.7 11.5V 1A 10W DFN-2 R/TP 2P 1 PROTEK DEVICES INC.	
7	MIC10000	Microphone Condenser	EAB62429201	SO8OT423-09 -42DB 100OHM OMNI 1.5 TO 3.6V 3.76x2.95x1.1 SMD GoerTek Inc.	
7	C10002	Capacitor Ceramic,Chip	EAE62762301	CL03A105MP3NSNC 1uF 20% 10V X5R - 55TO+85C 0603 R/TP 0.33 MM - SAMSUNG ELECTRO-MECHANICS CO., LTD.	
6	EBR070300	PCB Assembly Flexible,SMT Top	EBR76163701	LGE615F.ABRABK 1.0 Flexible	
7	EAX010700	PCB,Flexible	EAX65043101	LGE615F.ABRABK B POLYI Multi 4 0.3 Flexible	

## 12. EXPLODED VIEW & REPLACEMENT PART LIST

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Level	LocationNo.	Description	PartNumber	Spec	Remark
7	CN11000	Connector,BtoB	ENBY0056801	14-5804-024-000-829+ 24P 0.40MM STRAIGHT MALE SMD R/TP 900mM - KYOCERA ELCO KOREA SALES CO.,LTD.	
7	CN10000	Jack,Phone	EAG63010701	KJA-PH-0-0183 4P 4P ANGLE R/TP 3.5M BLACK 5P Reverse shape KSD CO., LTD	
5	EBR070100	PCB Assembly Flexible,Insert	EBR75640501	LGE610.ADEUBK 1.0 Flexible	
4	SJMY00	Motor,DC	SJMY0007104	3V 80mA 0A 12KRPM 0RPM 0SEC 0GF.CM 0OHM	
4	EAB00	Receiver	EAB62788301	KR-1207-WB2P 30mW 320OHM 106DB 300HZTO7KHZ WIRE - KIRYN TELECOM CO., LTD	
4	EAA00	PIFA Antenna,Multiple	EAA62788203	HIL-02C42-0000AA MULTI -5DB 5 LDS Type - Main Carrier E.M.W CO., LTD.	
5	EAA030100	PIFA Antenna,WiFi	EAA62769101	ACA-00170 SINGLE -5DB 5 Metal Stamping Type - -- MOBITECH CORPORATION	
5	EAA030101	PIFA Antenna,GPS	EAA62769202	ACA-00169 SINGLE -5DB 5 Metal Stamping Type - -- MOBITECH CORPORATION	
4	EAB01	Speaker,Dual Mode	EAB62653001	BRS-181030P08-P Nd-Fe-B 700mW 8OHM 92DB 850HZ 1810 3t spring SPRING BUJEON ELECTRONICS CO., LTD	
3	EBR02	PCB Assembly,Main	EBR76103401	LGE615.ACISBK 1.0 Main	
4	EBR071500	PCB Assembly Main,Insert	EBR76225801	LGE615.ACISBK 1.0 Main	
5	EBP00	Camera Module	EBP61582101	C5AA-H429A C5AA-H429A 5M AF, Hynix(1/4") CIS, 8.5x8.5x4.95t, MIPI, 0deg, FPCB LG INNOTEK CO., LTD	
5	EAX00	PCB,Flexible	EAX64734901	LGE610.ADEUBK 1.0 POLYI Multi 2 0.2 Flexible	
5	RAA050100	Resin,PC	BRAH0001301	UF2040 or 3075BHF .. NONE	
4	EBR071800	PCB Assembly Main,SMT	EBR76103501	LGE615.ACISBK 1.0 Main	
5	SAD010001	Software,Mobile	SAD33524501	Base V10d - EUROPE QCT -	

## 12. EXPLODED VIEW & REPLACEMENT PART LIST

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Level	LocationNo.	Description	PartNumber	Spec	Remark
5	EBR071600	PCB Assembly Main,SMT Bottom	EBR76026401	LGE615.ACISBK 1.0 Main	
6	S7001	Card Socket	EAG63211701	5000-12P-2.95D-A1-R0 SIM 12P STRAIGHT SMD T/REEL - HYUPJIN I&C CO.,LTD.	
6	L11002 L11003	Inductor Multilayer,Chip	ELCH0001403	LL1005-FHL1N0S 1NH 0.3NH - 400mA -- 0.1OHM 20GHZ 7 SHIELD NONE 1.0X0.5X0.5MM R/TP TOKO, INC.	
6	U4003	IC,LDO Voltage Regulator	EUSY0373901	RP103K301D-TR RP103K301D-TR RP103K301D- TR,PLP1010 ,4 ,R/TP ,150mA, 3.0V Single LDO RICOH COMPANY, LTD. RICOH COMPANY, LTD.	
6	L6003	Inductor Multilayer,Chip	ELCH0010402	LK1005 R27K-T 270NH 10% - 25mA -- 1.2OHM 120MHZ 10 SHIELD NONE 1.0X0.5X0.5MM R/TP TAIYO YUDEN CO.,LTD	
6	R4026	Resistor,Chip	ERHY0009506	MCR006YZPJ104 100KOHM 5% 1/20W 0603 R/TP - ROHM.	
6	L1045	Inductor Multilayer,Chip	ELCH0009106	0402CS-6N2XJEW 6.2NH 5% - 760mA 0.083OHM 4.8GHZ 20 NON SHIELD NONE 1.19X0.64X0.66MM R/TP COILCRAFT SINGAPORE PTE LTD.	
6	R7001 R7002 R7003 R7004 R7005	Resistor,Chip	ERHY0009561	MCR006YZPF5602 56KOHM 1% 1/20W 0603 R/TP - ROHM.	
6	R1002	Resistor,Chip	ERHZ0000443	MCR01MZP5J222 2.2KOHM 5% 1/16W 1005 R/TP - ROHM.	

## 12. EXPLODED VIEW & REPLACEMENT PART LIST

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Level	LocationNo.	Description	PartNumber	Spec	Remark
6	C1022 C1024 C1025 C1026 C1027 C1031 C1040 C1042 C1044 C1045 C1047 C1048 C1049 C1050 C1051 C1052 C1053 C1057 C1060 C2009 C2010 C2011 C2016 C2017 C2018 C2019 C2020 C2032 C2034 C3004 C3008 C3009	Capacitor Ceramic,Chip	ECCH0009101	C0603X5R0J104KT00NN 0.1uF 10% 6.3V X5R - 55TO+85C 0603 R/TP - TDK CORPORATION	
6	C3010 C3011 C3014 C3015 C3016 C3020 C3021 C3022 C3025 C3071 C4025 C5001 C5022 C6002	Capacitor Ceramic,Chip	ECCH0009101	C0603X5R0J104KT00NN 0.1uF 10% 6.3V X5R - 55TO+85C 0603 R/TP - TDK CORPORATION	
6	D10002	Diode,TVS	EDTY0008606	PRSB6.8C 4.7V 5.7 11.5V 1A 10W DFN-2 R/TP 2P 1 PROTEK DEVICES INC.	
6	R5010	Resistor,Chip	ERHY0009547	MCR006YZPF2003 200KOHM 1% 1/20W 0603 R/TP - ROHM.	

## 12. EXPLODED VIEW & REPLACEMENT PART LIST

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Level	LocationNo.	Description	PartNumber	Spec	Remark
6	C1030 C1036 C1077 L1046	Capacitor Ceramic,Chip	ECCH0000184	GRM1555C1H2R7C 2.7pF 0.25PF 50V NP0 - 55TO+125C 1005 R/TP - MURATA MANUFACTURING CO.,LTD.	
6	C1056 C1061 C1082 C1083 C1099 C1100	Capacitor Ceramic,Chip	ECCH0009103	C0603C0G1H101JT00NN 100pF 5% 50V C0G - 55TO+125C 0603 R/TP - TDK CORPORATION	
6	C4001 C4008 C4014 C4085 C6035	Capacitor Ceramic,Chip	ECZH0001215	C1005X5R1A105KT000F 1uF 10% 10V X5R - 55TO+85C 1005 R/TP - TDK KOREA COOPERATION	
6	C1013	Capacitor TA,Conformal	EAE62748301	F981A226MMALZT 22uF 20% 10V 11UA - 55TO+125C 8OHM 1.6X0.85X0.8MM NONE SMD R/TP 0.9T max. NICHICON CORPORATION	
6	C3026 C3043 C4035 C4036 C4037 C4038	Capacitor Ceramic,Chip	ECCH0017501	CL10A226MQ8NRNE 22uF 20% 6.3V X5R - 55TO+85C 1608 R/TP 0.8MM SAMSUNG ELECTRO-MECHANICS CO., LTD.	
6	C4031	Capacitor TA,Conformal	EAE62748401	F981A476MSA 47uF 20% 10V 9.4UA -55TO+125C 50OHM 2.2X1.25X0.9MM NONE SMD R/TP 0.9T max. NICHICON CORPORATION	
6	R10001 R10002 R5004 R5005 R6001 R6002	Resistor,Chip	ERHY0009526	MCR006YZPJ472 4.7KOHM 5% 1/20W 0603 R/TP - ROHM.	
6	C11002	Capacitor Ceramic,Chip	ECZH0000813	C1005C0G1H101JT 100pF 5% 50V C0G - 55TO+125C 1005 R/TP - TDK KOREA COOPERATION	
6	C1055	Capacitor Ceramic,Chip	ECCH0009216	GRM0335C1E220J 22pF 5% 25V X7R - 55TO+125C 0603 R/TP - MURATA MANUFACTURING CO.,LTD.	
6	C6009 C6011	Capacitor Ceramic,Chip	ECCH0007804	CL05A225MP5NSNC 2.2uF 20% 10V X5R - 55TO+85C 1005 R/TP 0.5MM SAMSUNG ELECTRO-MECHANICS CO., LTD.	

## 12. EXPLODED VIEW & REPLACEMENT PART LIST

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Level	LocationNo.	Description	PartNumber	Spec	Remark
6	L5002	Inductor,Wire Wound,Chip	EAP61747901	VLS3010ET-100M 10UH 20% - 560mA 0.56 0.8 0.468OHM -- SHIELD 3.0X3.0X1.0 MM NONE R/TP TDK KOREA COOPERATION	
6	L1020	Inductor Multilayer,Chip	ELCH0003844	LQG15HS2N0S02D 2NH 0.3NH - 300mA 0.1OHM 6GHZ 8 SHIELD NONE 1.0X0.5X0.5MM R/TP MURATA MANUFACTURING CO.,LTD.	
6	C6005 C6006	Capacitor Ceramic,Chip	EAE62282201	GRM033R71E102KA01D 0.00000001F 10% 25V X7R -55TO+125C 0603 R/TP 0.3+-0.03 MM MURATA MANUFACTURING CO.,LTD.	
6	R1006 R1007	Resistor,Chip	ERHZ0000512	MCR01MZP5J820 820OHM 5% 1/16W 1005 R/TP - ROHM.	
6	C4019 C4032 C4062	Capacitor Ceramic,Chip	ECCH0002001	C1005JB0J104KT000F 0.1uF 10% 6.3V Y5P - 30TO+85C 1005 R/TP - TDK CORPORATION	
6	C9011 C9012 C9013 C9018 C9020 C9027	Capacitor Ceramic,Chip	ECCH0009514	MCH032A(AN)100DK 10pF 0.5PF 25V X7R - 55TO+125C 0603 R/TP - ROHM.	
6	U4006	IC,LDO Voltage Regulator	EUSY0407401	RT9032 WDFN8L,8,R/TP,Programmable Dual LDO,IC,LDO Voltage Regulator IC,LDO Voltage Regulator RICHTEK TECHNOLOGY CORP.	
6	D10000 D10001	Diode,TVS	EDTY0012501	UCLAMP3311T.TCT 3.3V 3.5V min. 6.5V 5A - SLP1006P2T R/TP 2P 1 SEMTECH CORPORATION	
6	LD5001	LED,Flash	EAV61694901	FCW401Z5L WHITE 3.7~4.3V 1A 160lm - 1170mW 2016 R/TP 2P - SEOUL SEMICONDUCTOR CO.,LTD	
6	R6009 R6010	Resistor,Chip	ERHZ0000348	MCR01MZP5F12R0 120OHM 1% 1/16W 1005 R/TP - ROHM.	
6	C4029 C6021 C6037 C9014	Capacitor Ceramic,Chip	ECCH0000115	MCH155A220JK 22pF 5% 50V NP0 -55TO+125C 1005 R/TP - ROHM Semiconductor KOREA CORPORATION	
6	R1004	Resistor,Chip	ERHZ0000517	MCR01MZP5J910 910OHM 5% 1/16W 1005 R/TP - ROHM.	

## 12. EXPLODED VIEW & REPLACEMENT PART LIST

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Level	LocationNo.	Description	PartNumber	Spec	Remark
6	L9004	Inductor Multilayer,Chip	EAP61767801	LQP03TN2N4B02D 2.4NH 0.1NH - 500mA -- 0.2OHM 6GHZ 14 SHIELD NONE 0.6X0.3X0.3MM R/TP MURATA MANUFACTURING CO.,LTD.	
6	U9002	IC,WiFi	EAN62416201	WCN1314-0-87WLNSP-TR-0D WCN1314 Revision version, WiFi(11bgn) signle band, 3.95x4.16x0.63, 0.4pitch, 65nm, WLCSP R/TP 87P QUALCOMM INCORPORATED.	
6	C3001 C3002 C3003 C3017 C3027 C3030 C3031 C3032 C3033 C3034 C3035 C3039 C3040 C3041 C3057 C3058 C3059 C3060 C3061 C3062 C3063 C3064 C3065 C3066 C3067 C3068 C3069	Capacitor Ceramic,Chip	ECCH0034801	CL03A474MQ3NNNH 0.47uF -20TO20% 6.3V X5R -55TO+85C 0603 R/TP 0.3+-0.03 SAMSUNG ELECTRO-MECHANICS CO., LTD.	
6	C1065	Capacitor Ceramic,Chip	ECCH0001001	C1005C0G1H6R8CT000F 6.8pF 0.25PF 50V NP0 - 55TO+125C 1005 R/TP - TDK KOREA COOPERATION	
6	R4035 R4036 R7007 R7008	Resistor,Chip	ERHY0000254	MCR01MZP5J472 4.7KOHM 5% 1/16W 1005 R/TP - ROHM.	
6	U4005	IC,Mini ABB	EAN62339701	LP8727- B MUIC with Charger IC CSP R/TP 25P TEXAS INSTRUMENTS KOREA LTD, HONGKONG BRANCH.	

## 12. EXPLODED VIEW & REPLACEMENT PART LIST

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Level	LocationNo.	Description	PartNumber	Spec	Remark
6	U1002	Module,Tx Module	EAT61673301	RF3242 0DBM 0DB 0% 0A 0A 0DB 0DBM 0DBM 22P 6.63x5.24x0.975MM WGPRS Quad Tx Dual Rx, SP6T, Dual WCDMA Port, 22pin, 6.63*5.24*0.975 RF MICRO DEVICES INC	
6	C9003	Capacitor Ceramic,Chip	ECCH0000183	GRM1555C1H1R8C 1.8pF 0.25PF 50V NP0 - 55TO+125C 1005 R/TP - MURATA MANUFACTURING CO.,LTD.	
6	R10003 R10005 R10006	Resistor,Chip	ERHY0009541	MCR006YZPF4700 470OHM 1% 1/20W 0603 R/TP - ROHM.	
6	R4004	Resistor,Chip	ERHZ0000404	MCR01MZP5J102 1KOHM 5% 1/16W 1005 R/TP - ROHM.	
6	R4007	Resistor,Chip	ERHZ0000204	MCR01MZP5F1003 100KOHM 1% 1/16W 1005 R/TP - ROHM.	
6	VA7010	Varistor	SEVY0005101	ICVL0518050FR 18V 0% 5F 1.0*0.5*0.55 NONE SMD R/TP INNOCHIPS TECHNOLOGY	
6	U5001	IC,DC,DC Converter	EAN62410701	AS3647 2.7 to 4.4V adj 0W WLCSP R/TP 13P - AUSTRIAMICROSYSTEMS AG	
6	C1034	Capacitor Ceramic,Chip	ECCH0009104	C0603C0G1H330JT00NN 33pF 5% 50V C0G - 55TO+125C 0603 R/TP - TDK CORPORATION	
6	L1024	Inductor Multilayer,Chip	ELCH0003831	LQG15HS1N0S02D 1NH 0.3NH - 300mA 0.07OHM 10GHZ 8 SHIELD NONE 1.0X0.5X0.5MM R/TP MURATA MANUFACTURING CO.,LTD.	
6	C1067 C1084 C4063	Capacitor Ceramic,Chip	ECCH0007803	CL10A106MP8NNNC 10uF 20% 10V X5R - 55TO+85C 1608 R/TP 0.8MM SAMSUNG ELECTRO-MECHANICS CO., LTD.	
6	R2003 R2026 R3010	Resistor,Chip	ERHY0009505	MCR006YZPJ103 10KOHM 5% 1/20W 0603 R/TP - ROHM.	
6	L2001	Inductor Multilayer,Chip	ELCH0010401	LK1005 2R2K-T 2.2UH 10% - 20mA -- 1.7OHM 40MHZ 20 SHIELD NONE 1.0X0.5X0.5MM R/TP TAIYO YUDEN CO.,LTD	
6	R1019	Resistor,Chip	ERHY0009501	MCR006YZPJ000 0OHM 5% 1/20W 0603 R/TP - ROHM.	
6	L10000 L10001	Inductor Multilayer,Chip	EAP62226901	LG HK 0603 1N0S-T 1NH 0.3NH - 470mA -- 0.11OHM 10GHZ 4 SHIELD - 0.6X0.3X0.3MM R/TP TAIYO YUDEN CO.,LTD	

## 12. EXPLODED VIEW & REPLACEMENT PART LIST

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Level	LocationNo.	Description	PartNumber	Spec	Remark
6	CN7006	Connector,BtoB	ENBY0051001	GB042-10S-H10-E3000 10P 0.4MM STRAIGHT FEMALE SMD R/TP 1M - LS Mtron Ltd.	
6	L1004	Inductor Multilayer,Chip	ELCH0003842	LQG15HSR10J02D 100NH 5% - 150mA -- 1.25OHM 600MHZ 8 SHIELD NONE 1.0X0.5X0.5MM R/TP MURATA MANUFACTURING CO.,LTD.	
6	R9001 R9006	Resistor,Chip	ERHZ0000407	MCR01MZP5J105 1MOHM 5% 1/16W 1005 R/TP - ROHM.	
6	C1028 L1041	Capacitor Ceramic,Chip	ECCH0000120	MCH155A390J 39pF 5% 50V NP0 -55TO+125C 1005 R/TP - ROHM Semiconductor KOREA CORPORATION	
6	R1003 R1005 R1008 R1013 R1014 R2001 R2002 R3001 R3012 R4008 R4021 R5018 R5019 R5020 R5021 R5022 R5023 R8001 R8010 R8011 R8012	PCB ASSY,MAIN PAD SHORT	SAFP0000401	LG-LU3000 LGTBK,MAIN,A,	
6	L1009 L1011 L1029	Inductor Multilayer,Chip	ELCH0004709	1005GC2T3N3SLF 3.3NH 0.3NH - 300mA 0.19OHM 4.5GHZ 8 SHIELD NONE 1.0X0.5X0.5MM R/TP PILKOR ELECTRONICS LTD.	
6	L1028	Inductor Multilayer,Chip	ELCH0001412	LL1005-FHL1N8S 1.8NH 0.3NH - 400mA 0.14OHM 15GHZ 8 SHIELD NONE 1.0X0.5X0.5MM R/TP TOKO, INC.	
6	R1018	Resistor,Chip	ERHY0009504	MCR006YZPJ102 1KOHM 5% 1/20W 0603 R/TP - ROHM.	

## 12. EXPLODED VIEW & REPLACEMENT PART LIST

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Level	LocationNo.	Description	PartNumber	Spec	Remark
6	U9001	IC,Bluetooth	EAN61966101	WCN-2243-0-58BWLNSP-S/TR-05 17VTO2.7V,2.2VTO3V,1.7VTO1.9V 120mW 58P - WLCS P R/TP-T 58P QUALCOMM INCORPORATED.	
6	VA10000 VA10001 VA10002 VA10003	Varistor	SEVY0008101	EVLC5S01033 EVLC5S01033 EVLC5S01033,5.5 V, ,SMD ,Vdc 5.5, Vb 10~15.6, Cp 17.9 at 1MHz, 0.6*0.3*0.33 , ,5.5 , ,23.1~42.9 ,0.6*0.3*0.33 ,[empty] ,SMD ,R/TP AMOTECH CO., LTD. AMOTECH CO., LTD.	
6	C2025	Capacitor Ceramic,Chip	ECCH0010501	GRM1555C1H7R5D 7.5pF 0.5PF 50V C0G - 55TO+125C 1005 R/TP - MURATA MANUFACTURING CO.,LTD.	
6	R2027 R6014	Resistor,Chip	ERHY0009516	MCR006YZPJ222 2.2KOHM 5% 1/20W 0603 R/TP - ROHM.	
6	D5003	Diode,Switching	EDSY0017701	SDB1040 550mV 40V 1A 30A 0SEC 0W SOD123 R/TP 2P 1 AUK CORP	
6	FB9001	Filter,Bead	EAM62471001	BLM03AX241SN1D 240 ohm 0.6X0.3X0.33 25% 0.38 ohm 0.35A SMD R/TP 2P 0 MURATA MANUFACTURING CO.,LTD.	
6	R4033	Resistor,Chip	ERHY0000140	MCR01MZP5F3602 36KOHM 1% 1/16W 1005 R/TP - ROHM.	
6	CN5001 CN5002	Connector,BtoB	ENBY0034201	GB042-24S-H10-E3000 24P 0.40MM STRAIGHT SOCKET SMD R/TP 1M - LS Mtron Ltd.	
6	U1003	IC,RF Amplifier	EUSY0365401	BGA711L7 -0.3~3.6 2.7-3.0 NA 0W 0W NA 0 TSLP R/TP 7P - INFINEON TECHNOLOGIES (ASIA PACIFIC) PTE LTD.	
6	R10000 R10004	Resistor,Chip	ERHY0009502	MCR006YZPJ100 10OHM 5% 1/20W 0603 R/TP - ROHM.	
6	C6023 C6024	Capacitor Ceramic,Chip	ECCH0009506	MCH032A270JK 27pF 5% 25V NP0 -55TO+125C 0603 R/TP - ROHM.	
6	CN6002 CN6003	Connector,BtoB	ENBY0056901	24-5804-024-000-829+ 24P 0.40MM STRAIGHT FEMALE SMD R/TP 900mM - KYOCERA ELCO KOREA SALES CO.,LTD.	
6	C2004 C4017 C4018 C4023 C4024 C4026	Capacitor Ceramic,Chip	ECZH0003103	GRM36X7R104K10PT 100nF 10% 10V X7R - 55TO+125C 1005 R/TP - MURATA MANUFACTURING CO.,LTD.	

## 12. EXPLODED VIEW & REPLACEMENT PART LIST

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Level	LocationNo.	Description	PartNumber	Spec	Remark
6	R9009	Resistor,Chip	ERHZ0000203	MCR01MZP5F1002 10KOHM 1% 1/16W 1005 R/TP - ROHM.	
6	C1006 C1007 C2021 C6029 C6030	Capacitor Ceramic,Chip	ECCH0009106	C0603X7R1C103KT 10nF 10% 10V X7R - 55TO+125C 0603 R/TP - TDK CORPORATION	
6	SW1001	Connector,RF	EAG62970901	KMS-518(P)-BEF NONE STRAIGHT SOCKET SMD T/REEL AU 50OHM 400mDB HIROSE KOREA CO.,LTD	
6	C1023 C1033 C1041 C1043 C1046 C1054 C5024	Capacitor Ceramic,Chip	ECCH0017601	CL05A475MQ5NRNC 4.7uF 20% 6.3V X5R - 55TO+85C 1005 R/TP 0.5MM SAMSUNG ELECTRO-MECHANICS CO., LTD.	
6	C3005 C4041 C4042 C4043 C4048 C4049 C4050 C4051 C4052 C4053 C4054 C4055 C4056 C4057 C4058 C4059 C4076 C4077 C5023	Capacitor Ceramic,Chip	ECCH0004904	GRM155R60J105K 1uF 10% 6.3V X5R -55TO+85C 1005 R/TP - MURATA MANUFACTURING CO.,LTD.	
6	CN2001	Connector,BtoB	EAG63013801	GB042-14P-H10-E3000 14P 0.40MM STRAIGHT PLUG SMD R/TP 1M - LS Mtron Ltd.	
6	C5009	Capacitor Ceramic,Chip	ECCH0017401	CL21B105KBFNNNE 1uF 10% 50V X7R - 55TO+125C 2012 R/TP 1.25MM SAMSUNG ELECTRO-MECHANICS CO., LTD.	
6	R1023 R1024	Resistor,Chip	ERHZ0000429	MCR01MZP5J181 180OHM 5% 1/16W 1005 R/TP - ROHM.	
6	CN7004	Socket,Card	EAG62830201	104031-0811 SD 8P ANGLE SMD R/TP 11.95x11.40x1.42t, Push-pull type MOLEX	

## 12. EXPLODED VIEW & REPLACEMENT PART LIST

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Level	LocationNo.	Description	PartNumber	Spec	Remark
6	BAT4001	Capacitor Assembly	SMZY0023501	PAS311HR-VG1 3.8 Backup Capacitor 0.03F,Module Assembly, KOREA TAIYO YUDEN.CO., LTD.	
6	L5001	Inductor,Wire Wound,Chip	ELCP0014301	1239AS-H-1R0N=P2 1UH 30% - 2.3A 3.0 2.3 0.059OHM - SHIELD 2.5X2.0X1.2MM NONE R/TP TOKO, INC.	
6	C1059 C7002 C7003 C7005 C7006	Capacitor Ceramic,Chip	ECCH0000110	MCH155A100D 10pF 0.5PF 50V NP0 -55TO+125C 1005 R/TP - ROHM Semiconductor KOREA CORPORATION	
6	C2033 C2035	Capacitor Ceramic,Chip	ECCH0017301	CL03A105MQ3CSNH 0.000001F 20% 6.3V X5R - 45TO+85C 0603 R/TP - SAMSUNG ELECTRO-MECHANICS CO., LTD.	
6	D5001 D6004 D7001 D7002	Diode,TVS	EAH61733401	PESD5V0L5UK 5V 6.47V min. / 6.8V typ. / 7.14V max. 9.9V 3.1A 30W SOT891 R/TP 6P 5 NXP Semiconductors	
6	L1044	Inductor Multilayer,Chip	ELCH0004711	1005GC2T22NJLF 22NH 5% - 200mA 0.8OHM 1.5GHZ 8 SHIELD NONE 1.0X0.5X0.5MM R/TP PILKOR ELECTRONICS LTD.	
6	C9029 C9031 C9034	Capacitor Ceramic,Chip	EAE62286801	CL03A104KP3NNNC 0.0000001F 10% 10V X5R - 55TO+85C 0603 R/TP 0.3 - SAMSUNG ELECTRO-MECHANICS CO., LTD.	
6	C9036	Capacitor Ceramic,Chip	ECCH0032801	GRM033R60J224M 0.00000022F 20% 6.3V X5R - 55TO+85C 0603 R/TP 0.3MM MURATA MANUFACTURING CO.,LTD.	
6	C5026	Capacitor Ceramic,Chip	ECCH0007802	CL10A475KP8NNNC 4.7uF 10% 10V X5R - 55TO+85C 1608 R/TP -- SAMSUNG ELECTRO-MECHANICS CO., LTD.	

## 12. EXPLODED VIEW & REPLACEMENT PART LIST

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Level	LocationNo.	Description	PartNumber	Spec	Remark
6	C3007 C3013 C3018 C3023 C3024 C3070 C4044 C4045 C4046 C4047 C4060 C6001 C6016 C6017 C6018 C6019	Capacitor Ceramic,Chip	ECCH0000198	CL05A225MQ5NSNC 2.2uF 20% 6.3V X5R - 55TO+85C 1005 R/TP . SAMSUNG ELECTRO- MECHANICS CO., LTD.	
6	SW1002	Connector,RF	ENWY0003901	U.FL-R-SMT(10) 1.90MM STRAIGHT SOCKET SMD T/REEL CU 50OHM 300mDB HIROSE KOREA CO.,LTD	
6	C4080 C6022	Capacitor Ceramic,Chip	EAE62505701	CL10A105KB8NNNC 1uF 10% 50V X5R - 55TO+85C 1608 R/TP 0.9T max. - SAMSUNG ELECTRO-MECHANICS CO., LTD.	
6	R1017	Resistor,Chip	ERHY0000137	MCR01MZP5F2702 27KOHM 1% 1/16W 1005 R/TP - ROHM.	
6	C9004 L1036 L1048	Inductor Multilayer,Chip	ELCH0004727	1005GC2TR10JLF 100NH 5% - 100mA 2.3OHM 600MHZ 8 SHIELD NONE 1.0X0.5X0.5MM R/TP PILKOR ELECTRONICS LTD.	
6	R4034	Resistor,Chip	ERHZ0000405	MCR01MZP5J103 10KOHM 5% 1/16W 1005 R/TP - ROHM.	
6	C1016 L1039	Inductor Multilayer,Chip	ELCH0004707	1005GC2T1N5SLF 1.5NH 0.3NH - 300mA 0.13OHM 7GHZ 8 SHIELD NONE 1.0X0.5X0.5MM R/TP PILKOR ELECTRONICS LTD.	
6	C2001 C2002 C4009	Capacitor Ceramic,Chip	ECZH0025916	GRM0335C1E330J 33pF 5% 25V NP0 - 55TO+125C 0603 R/TP - MURATA MANUFACTURING CO.,LTD.	
6	U1006	IC,RF Amplifier	SMZY0025501	RF2815 3.3*2.1*1.0,FILTER+GPS LNA+FILTER MODULE, GPS, RF MICRO DEVICES INC	
6	FL5003	Filter,EMI/Power	SFEY0015901	ICMEF214P101MFR ICMEF214P101MFR ICMEF214P101MFR,SMD ,ESD Common mode Filter INNOCHIPS TECHNOLOGY INNOCHIPS TECHNOLOGY	

## 12. EXPLODED VIEW & REPLACEMENT PART LIST

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Level	LocationNo.	Description	PartNumber	Spec	Remark
6	C1094	Capacitor Ceramic,Chip	ECCH0000113	MCH155A180J 18pF 5% 50V NPO -55TO+125C 1005 R/TP - ROHM Semiconductor KOREA CORPORATION	
6	U5002	IC,DC,DC Converter	EAN62186901	LM3530TMX-40 NOPB 2.7 to 5.5V adj 0W CSP R/TP 12P - NATIONAL SEMICONDUCOTR CORPORATION.	
6	L1038	Inductor Multilayer,Chip	ELCH0001406	LL1005-FHL4N7S 4.7NH 0.3NH - 300mA 0.20OHM 7GHZ 9 SHIELD NONE 1.0X0.5X0.5MM R/TP TOKO, INC.	
6	C9032	Capacitor Ceramic,Chip	ECCH0009231	GRM033R71C471K 470pF 10% 16V X7R - 55TO+125C 0603 R/TP - MURATA MANUFACTURING CO.,LTD.	
6	CN4002	Connector Terminal Block	EAG63013601	04-9254-003-027-868+ 3P 2.50MM ANGLE DIP R/TP PCB-Cut Block 2.7T KYOCERA ELCO KOREA SALES CO.,LTD.	
6	L9001	Inductor Multilayer,Chip	ELCH0001040	HK1005 3N9S-T 3.9NH 0.3NH - 300mA 0.21OHM 4GHZ 8 SHIELD NONE 1.0X0.5X0.5MM R/TP TAIYO YUDEN CO.,LTD	
6	C3028 C3029 C3036 C3037 C3038 C3042 C3044 C3045 C3048 C3052	Capacitor Ceramic,Chip	ECZH0001217	GRM155R60J474K 470nF 10% 6.3V X5R - 25TO+70C 1005 BK-DUP - MURATA MANUFACTURING CO.,LTD.	
6	C1063	Capacitor Ceramic,Chip	ECCH0000155	MCH153CN103KK 10nF 10% 16V X7R - 55TO+125C 1005 R/TP - ROHM Semiconductor KOREA CORPORATION	
6	C1087	Inductor Multilayer,Chip	ELCH0003819	LQG15HS12NJ02D 12NH 5% - 300mA -- 0.28OHM 3GHZ 8 SHIELD NONE 1.0X0.5X0.5MM R/TP MURATA MANUFACTURING CO.,LTD.	
6	FL1006	Filter,Saw	SFSY0033404	B9444 1575.42MHz 1.4*1.1*0.45 SMD R/TP 5P EPCOS PTE LTD.	
6	FL1004	Filter Duplexer,IMT	SDMY0001901	SAYFP1G95AA0B00 SAYFP1G95AA0B00 SAYFP1G95AA0B00,1950 MHz,2140 MHz,1.8 dB,2.4 dB,52 dB,43 dB,2.5*2.0*0.55 ,SMD ,Band1, 2520size, SAW, Rx unbal MURATA MANUFACTURING CO.,LTD. MURATA MANUFACTURING CO.,LTD.	

## 12. EXPLODED VIEW & REPLACEMENT PART LIST

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Level	LocationNo.	Description	PartNumber	Spec	Remark
6	R7006	Resistor,Chip	ERHY0009307	MCR006YZPF4703 470KOHM 1% 1/20W 0603 R/TP - ROHM.	
6	C2003 C9010	Capacitor Ceramic,Chip	ECCH0000122	MCH155A470JK 47pF 5% 50V NP0 -55TO+125C 1005 R/TP - ROHM Semiconductor KOREA CORPORATION	
6	FB9002	Filter,Bead	SFBH0007103	BLM15BB750SN1D 75 ohm 1.0X0.5X0.5 25% 0.4 ohm 0.3A SMD R/TP 2P 0 MURATA MANUFACTURING CO.,LTD.	
6	FL9001	Filter Separator,FEM	SFAY0015501	AFEM-S102 2.1 25 0 connectivity for WCN1314 AVAGO TECHNOLOGIES INTERNATIONAL SALES PTE. LIMITED	
6	U7001	IC,Acceleration Sensor	EAN62222201	BMC050 Accelerometer with Geomagnetic Sensor 3X3X1 QFN R/TP 16P Accelerometer with Geomagnetic Sensor BOSCH SENSORTEC GMBH	
6	R1009	Resistor,Chip	ERHZ0000463	MCR01MZP5J330 330OHM 5% 1/16W 1005 R/TP - ROHM.	
6	C2036	Capacitor Ceramic,Chip	ECCH0009201	GRM033R60J473KE19D 47nF 10% 6.3V X5R - 55TO+85C 0603 R/TP - MURATA MANUFACTURING CO.,LTD.	
6	FL1008	Filter,Duplexer	EAM62350501	SAYRJ897MCA0B0A 942.5MHz 925 to 960 897.5MHz 880 to 915 3.5 2.8 2.5X2.0X0.6 DUAL SMD R/TP 9P MURATA MANUFACTURING CO.,LTD.	
6	R2008	Resistor,Chip	ERHZ0000206	MCR01MZP5F10R0 10OHM 1% 1/16W 1005 R/TP - ROHM.	
5	EBR071700	PCB Assembly Main,SMT Top	EBR76026501	LGE615.ACISBK 1.0 Main	
6	L1028	Inductor Multilayer,Chip	ELCH0001412	LL1005-FHL1N8S 1.8NH 0.3NH - 400mA 0.14OHM 15GHZ 8 SHIELD NONE 1.0X0.5X0.5MM R/TP TOKO, INC.	
6	C1078	Capacitor Ceramic,Chip	ECZH0001002	C1005CH1H0R5BT000F 0.5pF 0.1PF 50V NP0 - 55TO+125C 1005 R/TP - TDK KOREA COOPERATION	
6	R8004	Resistor,Chip	ERHZ0000401	MCR01MZSJ000 0OHM 5% 1/16W 1005 R/TP - ROHM.	
6	C1076	Resistor,Chip	ERHZ0000428	MCR01MZP5J180 180OHM 5% 1/16W 1005 R/TP - ROHM.	

## 12. EXPLODED VIEW & REPLACEMENT PART LIST

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Level	LocationNo.	Description	PartNumber	Spec	Remark
6	C1079	Resistor,Chip	ERHZ0000500	MCR01MZP5J620 620OHM 5% 1/16W 1005 R/TP - ROHM.	
6	C3028 C3029 C3036 C3037 C3038 C3042 C3044 C3045 C3048 C3052	Capacitor Ceramic,Chip	ECZH0001217	GRM155R60J474K 470nF 10% 6.3V X5R - 25TO+70C 1005 BK-DUP - MURATA MANUFACTURING CO.,LTD.	
6	EAX010000	PCB,Main	EAX64734301	LGE610.ADEUBK 1.1 FR-4 LX-BUMP 10 layer 0.8T Main	
6	C1022 C1024 C1025 C1026 C1027 C1031 C1040 C1042 C1044 C1045 C1047 C1048 C1049 C1050 C1051 C1052 C1053 C1057 C1060 C2009 C2010 C2011 C2016 C2017 C2018 C2019 C2020 C2032 C2034 C3004 C3008	Capacitor Ceramic,Chip	ECCH0009101	C0603X5R0J104KT00NN 0.1uF 10% 6.3V X5R - 55TO+85C 0603 R/TP - TDK CORPORATION	

## 12. EXPLODED VIEW & REPLACEMENT PART LIST

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Level	LocationNo.	Description	PartNumber	Spec	Remark
6	C3009 C3010 C3011 C3014 C3015 C3016 C3020 C3021 C3022 C3025 C3071 C4025 C5001 C5022 C6002	Capacitor Ceramic,Chip	ECCH0009101	C0603X5R0J104KT00NN 0.1uF 10% 6.3V X5R - 55TO+85C 0603 R/TP - TDK CORPORATION	
6	C3026 C3043 C4035 C4036 C4037 C4038	Capacitor Ceramic,Chip	ECCH0017501	CL10A226MQ8NRNE 22uF 20% 6.3V X5R - 55TO+85C 1608 R/TP 0.8MM SAMSUNG ELECTRO-MECHANICS CO., LTD.	
6	L1018 L9003 L9005	Inductor Multilayer,Chip	ELCH0001425	LL1005-FHL82NJ 82NH 5% - 150mA 1.9OHM 1.15GHZ 10 SHIELD NONE 1.0X0.5X0.5MM R/TP TOKO, INC.	
6	C1097 L1019	Inductor Multilayer,Chip	ELCH0004714	1005GC2T18NJLF 18NH 5% - 200mA 0.65OHM 1.6GHZ 8 SHIELD NONE 1.0X0.5X0.5MM R/TP PILKOR ELECTRONICS LTD.	
6	C2005	Capacitor TA,Conformal	ECTH0001902	F981A106MMA 10uF 20% 10V 1UA -55TO+125C 8OHM 1.6X0.85X0.8MM NONE SMD R/TP 0.9T max. NICHICON CORPORATION, EAST JAPAN SALES OFFICE	

## 12. EXPLODED VIEW & REPLACEMENT PART LIST

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Level	LocationNo.	Description	PartNumber	Spec	Remark
6	C3005 C4041 C4042 C4043 C4048 C4049 C4050 C4051 C4052 C4053 C4054 C4055 C4056 C4057 C4058 C4059 C4076 C4077 C5023	Capacitor Ceramic,Chip	ECCH0004904	GRM155R60J105K 1uF 10% 6.3V X5R -55TO+85C 1005 R/TP - MURATA MANUFACTURING CO.,LTD.	
6	FB6005 FB6006	Filter,Bead	SFBH0008101	BLM15AG601SN1D 600 ohm 1.0X0.5X0.5 25% 0.6 ohm 0.3A SMD R/TP 2P 0 MURATA MANUFACTURING CO.,LTD.	
6	C2003 C9010	Capacitor Ceramic,Chip	ECCH0000122	MCH155A470JK 47pF 5% 50V NP0 -55TO+125C 1005 R/TP - ROHM Semiconductor KOREA CORPORATION	
6	C1009 C1021 C1070 C1086 C2008	Capacitor Ceramic,Chip	ECZH0025920	GRM033R71C102K 1nF 10% 16V X7R - 55TO+125C 0603 R/TP - MURATA MANUFACTURING CO.,LTD.	
6	R2027 R6014	Resistor,Chip	ERHY0009516	MCR006YJPJ222 2.2KOHM 5% 1/20W 0603 R/TP - ROHM.	
6	C1072 C1080	Capacitor Ceramic,Chip	ECZH0000802	C1005C0G1H010CT 1pF 0.25PF 50V NP0 - 55TO+125C 1005 R/TP - TDK KOREA COOPERATION	
6	L1022 L1025	Inductor Multilayer,Chip	EAP62186301	LQP03TG1N8C02D 1.8NH 0.2NH - 500mA -- 0.2OHM 6GHZ 13 SHIELD - 0.6X0.3X0.3MM R/TP MURATA MANUFACTURING CO.,LTD.	
6	C2033 C2035	Capacitor Ceramic,Chip	ECCH0017301	CL03A105MQ3CSNH 0.000001F 20% 6.3V X5R - 45TO+85C 0603 R/TP - SAMSUNG ELECTRO- MECHANICS CO., LTD.	

## 12. EXPLODED VIEW & REPLACEMENT PART LIST

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Level	LocationNo.	Description	PartNumber	Spec	Remark
6	C3001 C3002 C3003 C3017 C3027 C3030 C3031 C3032 C3033 C3034 C3035 C3039 C3040 C3041 C3057 C3058 C3059 C3060 C3061 C3062 C3063 C3064 C3065 C3066 C3067 C3068 C3069	Capacitor Ceramic,Chip	ECCH0034801	CL03A474MQ3NNNH 0.47uF -20TO20% 6.3V X5R -55TO+85C 0603 R/TP 0.3+-0.03 SAMSUNG ELECTRO-MECHANICS CO., LTD.	
6	C4001 C4008 C4014 C4085 C6035	Capacitor Ceramic,Chip	ECZH0001215	C1005X5R1A105KT000F 1uF 10% 10V X5R - -55TO+85C 1005 R/TP - TDK KOREA COOPERATION	
6	R1003 R1005 R1008 R1013 R1014 R2001 R2002 R3001 R3012 R4008 R4021 R5018 R5019 R5020 R5021 R5022 R5023 R8001 R8010 R8011 R8012	PCB ASSY,MAIN PAD SHORT	SAFP0000401	LG-LU3000 LGTBK,MAIN,A,	

## 12. EXPLODED VIEW & REPLACEMENT PART LIST

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Level	LocationNo.	Description	PartNumber	Spec	Remark
6	C3007 C3013 C3018 C3023 C3024 C3070 C4044 C4045 C4046 C4047 C4060 C6001 C6016 C6017 C6018 C6019	Capacitor Ceramic,Chip	ECCH0000198	CL05A225MQ5NSNC 2.2uF 20% 6.3V X5R - 55TO+85C 1005 R/TP . SAMSUNG ELECTRO- MECHANICS CO., LTD.	
6	C2007	Capacitor Ceramic,Chip	ECCH0009107	GRM033R71C222K 2.2nF 10% 16V X7R - 55TO+125C 0603 R/TP - KOREA MURATA ELECTRONICS CO. LTD.	
6	C6014 C6015	Capacitor Ceramic,Chip	ECZH0003126	GRM155R71A393K 39nF 10% 10V X7R - 55TO+125C 1005 R/TP - MURATA MANUFACTURING CO.,LTD.	
6	R1018	Resistor,Chip	ERHY0009504	MCR006YZPJ102 1KOHM 5% 1/20W 0603 R/TP - ROHM.	
6	C1056 C1061 C1082 C1083 C1099 C1100	Capacitor Ceramic,Chip	ECCH0009103	C0603C0G1H101JT00NN 100pF 5% 50V C0G - 55TO+125C 0603 R/TP - TDK CORPORATION	
6	FL11001	Filter,EMI/Power	SFEY0016301	ICMEF112P900M COMMON MODE NOISE FILTER 0HZ 0F 0H SMD R/TP INNOCIPS TECHNOLOGY	
6	R2023	Resistor,Chip	ERHY0042405	RC0201FR-074K02L 4.02KOHM 1% 1/20W 0603 R/TP - YAGEO CORPORATION	
6	R4013 R4020 R4025	Resistor,Chip	EBC62035901	RC0201FR-071RL 1OHM 1% 1/20W 0603 R/TP - YAGEO CORPORATION	
6	D10000 D10001	Diode,TVS	EDTY0012501	UCLAMP3311T.TCT 3.3V 3.5V min. 6.5V 5A - SLP1006P2T R/TP 2P 1 SEMTECH CORPORATION	

## 12. EXPLODED VIEW & REPLACEMENT PART LIST

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Level	LocationNo.	Description	PartNumber	Spec	Remark
6	C1023 C1033 C1041 C1043 C1046 C1054 C5024	Capacitor Ceramic,Chip	ECCH0017601	CL05A475MQ5NRNC 4.7uF 20% 6.3V X5R - 55TO+85C 1005 R/TP 0.5MM SAMSUNG ELECTRO-MECHANICS CO., LTD.	
6	C4019 C4032 C4062	Capacitor Ceramic,Chip	ECCH0002001	C1005JB0J104KT000F 0.1uF 10% 6.3V Y5P - 30TO+85C 1005 R/TP - TDK CORPORATION	
6	FB6001 FB6002 FB6007 FB6008 FB6009	Filter,Bead	SFBH0008105	BLM15BD182SN1D 1800 ohm 1.0X0.5X0.5 25% 1.4 ohm 0.1A SMD R/TP 2P 0 MURATA MANUFACTURING CO.,LTD.	
6	R3002 R3003 R3004 R3005 R3006 R3007 R3008 R3009 R3013	Resistor,Chip	ERHY0009527	MCR006YZPJ473 47KOHM 5% 1/20W 0603 R/TP - ROHM.	
6	C11002	Capacitor,Ceramic, Chip	ECZH0000813	C1005C0G1H101JT 100pF 5% 50V C0G - 55TO+125C 1005 R/TP - TDK KOREA COOPERATION	
6	R1023 R1024	Resistor,Chip	ERHZ0000429	MCR01MZP5J181 180OHM 5% 1/16W 1005 R/TP - ROHM.	
6	L1006	Inductor Multilayer,Chip	ELCH0003835	LQG15HS4N7S02D 4.7NH 0.3NH - 300mA 0.18OHM 6GHZ 8 SHIELD NONE 1.0X0.5X0.5MM R/TP MURATA MANUFACTURING CO.,LTD.	
6	C2004 C4017 C4018 C4023 C4024 C4026	Capacitor Ceramic,Chip	ECZH0003103	GRM36X7R104K10PT 100nF 10% 10V X7R - 55TO+125C 1005 R/TP - MURATA MANUFACTURING CO.,LTD.	
6	C1016 L1039	Inductor Multilayer,Chip	ELCH0004707	1005GC2T1N5SLF 1.5NH 0.3NH - 300mA 0.13OHM 7GHZ 8 SHIELD NONE 1.0X0.5X0.5MM R/TP PILKOR ELECTRONICS LTD.	
6	C10005 C10006 C2023	Capacitor Ceramic,Chip	ECCH0000117	CL05C270JB5NNNC 27pF 5% 50V NP0 - 55TO+125C 1005 R/TP 0.5 SAMSUNG ELECTRO- MECHANICS CO., LTD.	

## 12. EXPLODED VIEW & REPLACEMENT PART LIST

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Level	LocationNo.	Description	PartNumber	Spec	Remark
6	C1055	Capacitor Ceramic,Chip	ECCH0009216	GRM0335C1E220J 22pF 5% 25V X7R - 55TO+125C 0603 R/TP - MURATA MANUFACTURING CO.,LTD.	
6	C11003	Capacitor Ceramic,Chip	ECZH0000830	C1005C0G1H330JT000F 33pF 5% 50V NP0 - 55TO+125C 1005 R/TP - TDK KOREA COOPERATION	
6	C4010 C4012 C4015 C4016 C6003	Capacitor Ceramic,Chip	EAE62506501	CL05A475MP5NRNC 4.7uF 20% 10V X5R - 55TO+85C 1005 R/TP - SAMSUNG ELECTRO-MECHANICS CO., LTD.	
6	R2003 R2026 R3010 R6015	Resistor,Chip	ERHY0009505	MCR006YZPJ103 10KOHM 5% 1/20W 0603 R/TP - ROHM.	
6	C1002 C1003 C1010 C1012	Capacitor Ceramic,Chip	ECCH0000187	GRM1555C1H151J 150pF 5% 50V NP0 - 55TO+125C 1005 R/TP - MURATA MANUFACTURING CO.,LTD.	
6	C1006 C1007 C2021 C6029 C6030	Capacitor Ceramic,Chip	ECCH0009106	C0603X7R1C103KT 10nF 10% 10V X7R - 55TO+125C 0603 R/TP - TDK CORPORATION	
6	C1030 C1036 C1077 L1046	Capacitor Ceramic,Chip	ECCH0000184	GRM1555C1H2R7C 2.7pF 0.25PF 50V NP0 - 55TO+125C 1005 R/TP - MURATA MANUFACTURING CO.,LTD.	
6	L1024	Inductor Multilayer,Chip	ELCH0003831	LQG15HS1N0S02D 1NH 0.3NH - 300mA 0.07OHM 10GHZ 8 SHIELD NONE 1.0X0.5X0.5MM R/TP MURATA MANUFACTURING CO.,LTD.	
6	L9002	Inductor Multilayer,Chip	ELCH0001431	LL1005-FHL68NJ 68NH 5% - 180mA 1.7OHM 1.3GHZ 10 SHIELD NONE 1.0X0.5X0.5MM R/TP TOKO, INC.	
6	L4001 L4002	Inductor,Wire Wound,Chip	ELCP0009409	LQM2HPN2R2MG0L 2.2UH 20% - 600mA 0.6 1.3 0.08OHM - SHIELD 2.5X2X1MM NONE R/TP MURATA MANUFACTURING CO.,LTD.	
6	L1043	Capacitor Ceramic,Chip	ECCH0000180	GRM1555C1H3R3C 3.3pF 0.25PF 50V NP0 - 55TO+125C 1005 R/TP - MURATA MANUFACTURING CO.,LTD.	

## 12. EXPLODED VIEW & REPLACEMENT PART LIST

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Level	LocationNo.	Description	PartNumber	Spec	Remark
6	C1067 C1084 C4063	Capacitor Ceramic,Chip	ECCH0007803	CL10A106MP8NNNC 10uF 20% 10V X5R - 55TO+85C 1608 R/TP 0.8MM SAMSUNG ELECTRO-MECHANICS CO., LTD.	
6	C1015 C1029 L1017 L1031 L1034 L1040	Inductor Multilayer,Chip	ELCH0001048	1005GC2T10NJLF 10NH 5% - 250mA 0.42OHM 2.5GHZ 8 SHIELD NONE 1.0X0.5X0.5MM R/TP PILKOR ELECTRONICS LTD.	
6	U1005	IC,Power Amplifier	SMPY0022601	SKY77705-15 28.5 dBm,40 %,10 mA,-40 dBc,27 dB,3.0*3.0*1.0,SMD,WBAND 8,LBAND 8,PCL6,3 MODE,3.2V~4.2V,28.5dBm,1,SMD,R/TP,10PIN SKYWORKS SOLUTIONS INC.	
6	R10001 R10002 R5004 R5005 R6001 R6002	Resistor,Chip	ERHY0009526	MCR006YZPJ472 4.7KOHM 5% 1/20W 0603 R/TP - ROHM.	
6	C4061	Capacitor Ceramic,Chip	ECCH0009203	GRM033R60J333K 33nF 10% 6.3V X5R - 55TO+85C 0603 R/TP - MURATA MANUFACTURING CO.,LTD.	
6	R1021	Resistor,Chip	ERHY0000104	MCR01MZP5F49R9 49.9OHM 1% 1/16W 1005 R/TP - ROHM.	
6	R2022 R8013	PCB ASSY,MAIN PAD OPEN	SAFO0000401	AX3100 ATL SV_SHIPBACK,MAIN,A,0OHM DNI	
6	R4016	Resistor,Chip	ERHZ0000493	MCR01MZP5J513 51KOHM 5% 1/16W 1005 R/TP - ROHM.	
6	FL1005	Filter,Saw	SFSY0035101	B9414 1950 1.4*1.1*0.45 SMD R/TP - EPCOS PTE LTD.	
6	D2001	Diode,Switching	EDSY0011901	SDB310Q 340mV 30V 200mA 1A 0SEC 150mW EMD2 R/TP 2P 1 AUK CORP	
6	L1009 L1011 L1029	Inductor Multilayer,Chip	ELCH0004709	1005GC2T3N3SLF 3.3NH 0.3NH - 300mA 0.19OHM 4.5GHZ 8 SHIELD NONE 1.0X0.5X0.5MM R/TP PILKOR ELECTRONICS LTD.	
6	C2001 C2002 C4009	Capacitor Ceramic,Chip	ECZH0025916	GRM0335C1E330J 33pF 5% 25V NP0 - 55TO+125C 0603 R/TP - MURATA MANUFACTURING CO.,LTD.	

## 12. EXPLODED VIEW & REPLACEMENT PART LIST

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Level	LocationNo.	Description	PartNumber	Spec	Remark
6	R2012 R2013	Resistor,Chip	ERHY0009535	MCR006YZPJ240 24OHM 5% 1/20W 0603 R/TP - ROHM.	
6	L1008	Inductor Multilayer,Chip	ELCH0004733	1005GC2T4N3SLF 4.3NH 0.3NH - 300mA 0.23OHM 3.5GHZ 8 SHIELD NONE 1.0X0.5X0.5MM R/TP PILKOR ELECTRONICS LTD.	
6	U1004	IC,Power Amplifier	SMPY0022701	SKY77701 28.25 dBm,40 %,10 mA,-40 dBc,27 dB,3.0*3.0*1.0,SMD,WBAND 1,LBAND 1,CPL,3 MODE,3.2V~4.2V,28.25dBm,1,SMD,R/TP,10,3.2V~4.2V,28.25dBm,1,SMD,R/TP,10 SKYWORKS SOLUTIONS INC.	
6	C5005 C5021 C6004	Capacitor Ceramic,Chip	ECCH0000182	GRM155R61A104K 0.1uF 10% 10V X5R - 55TO+85C 1005 R/TP - MURATA MANUFACTURING CO.,LTD.	
6	VA7008	Varistor	SEVY0004401	ICVL0518400V500FR 18V 0% 40pF 1.0*0.5*0.55 NONE SMD R/TP INNOCIPS TECHNOLOGY	
6	U4002	IC,PMIC	EAN62090501	PM8029 3 to 4.4V adj 1.3W NSP R/TP 140P - QUALCOMM INCORPORATED.	
6	L1010	Inductor Multilayer,Chip	ELCH0003817	LQG15HS7N5J02D 7.5NH 5% - 300mA 0.24OHM 4.2GHZ 8 SHIELD NONE 1.0X0.5X0.5MM R/TP MURATA MANUFACTURING CO.,LTD.	
6	C6005 C6006	Capacitor Ceramic,Chip	EAE62282201	GRM033R71E102KA01D 0.000000001F 10% 25V X7R -55TO+125C 0603 R/TP 0.3+/-0.03 MM MURATA MANUFACTURING CO.,LTD.	
6	R4037	Resistor,Chip	ERHY0009303	MCR006YZPF1002 10KOHM 1% 1/20W 0603 R/TP - ROHM.	
6	C1092	Inductor,Multilayer, Chip	ELCH0004713	1005GC2T6N8JLF 6.8NH 5% - 250mA 0.32OHM 3GHZ 8 SHIELD NONE 1.0X0.5X0.5MM R/TP PILKOR ELECTRONICS LTD.	
6	FL1003	Filter,Saw	SFSY0035001	B9411 2140 1.4*1.1*0.45 SMD R/TP - EPCOS PTE LTD.	
6	C4040	Capacitor Ceramic,Chip	ECCH0000149	MCH155CN332KK 3.3nF 10% 50V X7R - 55TO+125C 1005 R/TP - ROHM Semiconductor KOREA CORPORATION	
6	L1012	Inductor Multilayer,Chip	ELCH0004717	1005GC2T82NJLF 82NH 5% - 150mA 2.1OHM 700MHZ 8 SHIELD NONE 1.0X0.5X0.5MM R/TP PILKOR ELECTRONICS LTD.	

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Level	LocationNo.	Description	PartNumber	Spec	Remark
6	C1064 C1075	Capacitor Ceramic,Chip	ECCH0042008	GRM0335C1E3R9BD01D 3.9 pF,25V,B,C0G,TC,0603,R/TP,0.000000000039,0. 1PF,25V,C0G,-55TO+125C,0603,R/TP,0.3 mm MURATA MANUFACTURING CO.,LTD.	
6	R6009 R6010	Resistor,Chip	ERHZ0000348	MCR01MZP5F12R0 12OHM 1% 1/16W 1005 R/TP - ROHM.	
6	R2021 R4022	Resistor,Chip	ERHY0009536	MCR006YZPF1003 100KOHM 1% 1/20W 0603 R/TP - ROHM.	
6	M6001	IC,Audio Sub System	EUSY0420001	TPA2055D3 1.6~5.5V 0W WLCSP R/TP 20P - TEXAS INSTRUMENTS INC.	
6	R4024	Resistor,Chip	ERHY0009548	MCR006YZPF1303 130KOHM 1% 1/20W 0603 R/TP - ROHM.	
6	L1030	Inductor Multilayer,Chip	ELCH0003832	LQG15HS2N2S02D 2.2NH 0.3NH - 300mA -- 0.12OHM 6GHZ 8 SHIELD NONE 1.0X0.5X0.5MM R/TP MURATA MANUFACTURING CO.,LTD.	
6	FL1001	Filter,Saw,Dual	EAM62492501	SAWFD1G84CB0F0A 1842.5/1960MHz 1.5*1.1*0.5 SMD R/TP 10P MURATA MANUFACTURING CO.,LTD.	
6	R6012 R6013	Resistor,Chip	ERHY0009507	MCR006YZPJ105 1MOHM 5% 1/20W 0603 R/TP - ROHM.	
6	X4001	Crystal	EAW61843401	Q13FC1350000200 32.768KHZ 20PPM 0.00000000007F NONE SMD R/TP EPSON TOYOCOM CORP	
6	VA7010	Varistor	SEVY0005101	ICVL0518050FR 18V 0% 5F 1.0*0.5*0.55 NONE SMD R/TP INNOCHIPS TECHNOLOGY	
6	C1096	Inductor Multilayer,Chip	ELCH0001056	1005GC2T2N7SLF 2.7NH 0.3NH - 300mA 0.17OHM 5.5GHZ 8 SHIELD NONE 1.0X0.5X0.5MM R/TP PILKOR ELECTRONICS LTD.	
6	C6009 C6011	Capacitor Ceramic,Chip	ECCH0007804	CL05A225MP5NSNC 2.2uF 20% 10V X5R - 55TO+85C 1005 R/TP 0.5MM SAMSUNG ELECTRO-MECHANICS CO., LTD.	
6	L1042	Inductor Multilayer,Chip	ELCH0004716	1005GC2T39NJLF 39NH 5% - 200mA 1.2OHM 1.2GHZ 8 SHIELD NONE 1.0X0.5X0.5MM R/TP PILKOR ELECTRONICS LTD.	

## 12. EXPLODED VIEW & REPLACEMENT PART LIST

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Level	LocationNo.	Description	PartNumber	Spec	Remark
6	R4006	Resistor,Chip	ERHZ0000444	MCR01MZP5J223 22KOHM 5% 1/16W 1005 R/TP - ROHM.	
6	L4003 L4004	Inductor,Wire Wound,Chip	ELCP0008017	CIG21L2R2MNE 2.2UH 20% - 500mA 0.5 0.95 0.16OHM -- SHIELD 2X1.25X1MM NONE R/TP SAMSUNG ELECTRO-MECHANICS CO., LTD.	
6	L1021	Inductor Multilayer,Chip	ELCH0003838	LQG15HS8N2J02D 8.2NH 5% - 300mA 0.24OHM 3.7GHZ 8 SHIELD NONE 1.0X0.5X0.5MM R/TP MURATA MANUFACTURING CO.,LTD.	
6	R1022	Resistor,Chip	ERHY0002601	RC1005J430CS 43OHM 5% 1/16W 1005 R/TP - SAMSUNG ELECTRO-MECHANICS CO., LTD.	
6	C1037 C1039	Capacitor Ceramic,Chip	ECCH0000901	C1005C0G1H2R2CT000F 2.2pF 0.25PF 50V NP0 - 55TO+125C 1005 R/TP - TDK KOREA COOPERATION	
6	U1001	IC,RF Transceiver,3G	EAN62090401	RTR6285A GSM/EDGE/3G Quad with MSM7227A CSP R/TP 137P QUALCOMM INCORPORATED.	
6	U4006	IC,LDO Voltage Regulator	EUSY0407401	RT9032 WDFN8L,8,R/TP,Programmable Dual LDO,IC,LDO Voltage Regulator IC,LDO Voltage Regulator RICHTEK TECHNOLOGY CORP.	
6	R2015	Resistor,Chip	ERHY0042409	RC0201FR-0749R9L 49.90HM 1% 1/20W 0603 R/TP - YAGEO CORPORATION	
6	C1087	Inductor Multilayer,Chip	ELCH0003819	LQG15HS12NJ02D 12NH 5% - 300mA -- 0.28OHM 3GHZ 8 SHIELD NONE 1.0X0.5X0.5MM R/TP MURATA MANUFACTURING CO.,LTD.	
6	U6001	IC,Comparator	EAN62065901	MAX14579E 2.5~5.5V 2uA COMPARATOR TDFN R/TP 8P Headset Jack Detection IC with LDO, 15kV ESD MAXIM INTEGRATED PRODUCTS INC.	
6	R3011	Resistor,Chip	EBC61856101	RC0201JR-0722RL 220HM 5% 1/20W 0603 R/TP - YAGEO CORPORATION	
6	R1019	Resistor,Chip	ERHY0009501	MCR006YZPJ000 0OHM 5% 1/20W 0603 R/TP - ROHM.	
6	ZD4001	Diode,TVS	EAH61872501	PESD5V0S1UA 5V 6.2V min. 9.8V 47A 360mW SOD323 R/TP 2P 1 NXP Semiconductors	
6	L1005 L1007	Inductor Multilayer,Chip	ELCH0001036	HK1005 5N6S-T 5.6NH 0.3NH - 300mA 0.23OHM 4GHZ 8 SHIELD NONE 1.0X0.5X0.5MM R/TP TAIYO YUDEN CO.,LTD	

## 12. EXPLODED VIEW & REPLACEMENT PART LIST

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Level	LocationNo.	Description	PartNumber	Spec	Remark
6	L1015	Inductor Multilayer,Chip	ELCH0001408	LL1005-FHL6N8J 6.8NH 5% - 300mA 0.23OHM 5.6GHZ 9 SHIELD NONE 1.0X0.5X0.5MM R/TP TOKO, INC.	
6	L1023	Inductor Multilayer,Chip	ELCH0001057	1005GC2T3N9SLF 3.9NH 0.3NH - 300mA 0.22OHM 4GHZ 8 SHIELD NONE 1.0X0.5X0.5MM R/TP PILKOR ELECTRONICS LTD.	
6	D10002	Diode,TVS	EDTY0008606	PRSB6.8C 4.7V 5.7 11.5V 1A 10W DFN-2 R/TP 2P 1 PROTEK DEVICES INC.	
6	C1034	Capacitor Ceramic,Chip	ECCH0009104	C0603C0G1H330JT00NN 33pF 5% 50V C0G - 55TO+125C 0603 R/TP - TDK CORPORATION	
6	U2001	IC,Digital Baseband Processor,3G	EAN62405901	MSM7225A-1-AA 576NSP,ARMv7(800MHz),HSDPA(DL7.2Mbps only), HVGA LCD, VGA30fps,5M,MIPI CSI_DSI NSP R/TP 576P QUALCOMM INCORPORATED.	
6	C6036	Capacitor Ceramic,Chip	ECZH0001216	C1005X5R1A224KT000E 220nF 10% 10V X5R - 55TO+85C 1005 R/TP - TDK KOREA COOPERATION	
6	C1065	Capacitor Ceramic,Chip	ECCH0001001	C1005C0G1H6R8CT000F 6.8pF 0.25PF 50V NP0 - 55TO+125C 1005 R/TP - TDK KOREA COOPERATION	
6	R1012	Resistor,Chip	ERHZ0000212	MCR01MZP5F1202 12KOHM 1% 1/16W 1005 R/TP - ROHM.	
6	R2006 R7013	Resistor,Chip	ERHY0009503	MCR006YZPJ101 100OHM 5% 1/20W 0603 R/TP - ROHM.	
6	L1013	Inductor Multilayer,Chip	ELCH0004710	1005GC2T15NJLF 15NH 5% - 250mA 0.53OHM 2GHZ 8 SHIELD NONE 1.0X0.5X0.5MM R/TP PILKOR ELECTRONICS LTD.	
6	C1032	Capacitor Ceramic,Chip	ECCH0005604	GRM188R60J106M 10000000 pF,6.3V,M,X5R,TC,1608,R/TP,0.8 mm MURATA MANUFACTURING CO.,LTD.	
6	FL5003	Filter,EMI/Power	SFEY0015901	ICMEF214P101MFR ICMEF214P101MFR ICMEF214P101MFR,SMD ,ESD Common mode Filter INNOCHIPS TECHNOLOGY INNOCHIPS TECHNOLOGY	

## 12. EXPLODED VIEW & REPLACEMENT PART LIST

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Level	LocationNo.	Description	PartNumber	Spec	Remark
6	U3002	IC,MCP,eMMC	EAN62346701	KMSJS000KM-B308 NAND/4G SDRAM/2G 1.7VTO1.95V,2.7VTO3.6V 11.5x13.0x0.9 TR 153P NAND+DRAM FBGA 4GB eMMC+4Gb LPDDR1 200MHz (21nm 32Gb MLC+46nm 2Gb×2) SAMSUNG ELECTRONIC CO.,LTD	
6	C2022 C2024	Capacitor Ceramic,Chip	ECCH0000137	C1005X7R1H331KT000F 0.33nF 10% 50V X7R - 55TO+125C 1005 R/TP - TDK KOREA COOPERATION	
6	X2001	Oscillator VCTCXO	EAW61543601	X1G003581002700 19.2MHZ 2PPM 2.8V 2.5x2.0x0.8MM ; SMD R/TP EPSON TOYOCOM CORP	
6	FL1002	Filter,Saw,Dual	EAM62470601	B9814 881.5/942.5MHz 1.5*1.1*0.4 SMD R/TP 10P EPCOS PTE LTD.	

## 12. EXPLODED VIEW & REPLACEMENT PART LIST

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### 12.3 Accessory

**Note:** This Chapter is used for reference, Part order is ordered by SBOM standard on GCSC

Level	LocationNo.	Description	PartNumber	Spec	Remark
2	AFN053800	Manual Assembly Operation	AFN75892802	LGE615.ACISBK ZZ:Without Color Manual assy for LGE615 CIS	
3	MBM068900	Card,Service Guide	MBM63796702	PRINTING LGE615.ACISBK ZZ:Without Color Simple manual for LGE615 CIS	
3	MBM087200	Card,Warranty	MCDF0011303	COMPLEX GD350 CISBK ZZ:Without Color -	
2	EAC00	Rechargeable Battery Lithium Ion	EAC61679601	BL-44JN-WWU-LGC PRISMATIC 3.7V 1.5AH 300mAH 61x44x4.4 65x44x4.8 BLACK Bar type, Top cap Screw joint 444461, 1500mAh, Bar Type (Top cap screw joint), WW, Up LG Chem,LTD.	
2	MBM068900	Card,Service Guide	MBM63718501	PRINTING LGE610.AHUNBK ZZ:Without Color Notic Card for Android Google setup_ CIS HUN BAL	
2	MFL053800	Manual,Operation	MFL67701002	PRINTING LGE615.ACISBK ZZ:Without Color Russian Federation ENGLISH+RUSSIAN+KAZAKH+UKRAINIAN Web manual for LGE615 CIS	
2	EAY060000	Adapters	SSAD0038301	100-240V,5060 Hz,5.1 V,700 mA,CE,AC-DC Adaptor,90Vac~264Vac,5.1V,700mA,5060, WALL 2P,USB,	
2	EBX000000	Accessory,Data Cable	SGDY0016701	KCA-ET-8-0020 KCA-ET-8-0020 Micro USB, 1.2M KSD CO., LTD	